

JPRS 84928

12 December 1983

# China Report

AGRICULTURE

No. 281



FOREIGN BROADCAST INFORMATION SERVICE

#### NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [ ] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

#### PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

12 December 1983

# CHINA REPORT

## AGRICULTURE

No. 281

### CONTENTS

#### NATIONAL

Problems in Applying Agricultural Research Examined (Li Weiwu; MONGYE JINGJI WENTI, No 8, Aug 83) .....	1
Beijing Journal on Development of Feed Industry (JINGJI RIBAO, 25 Aug 83) .....	11
Development of Feed Industry Urged Terminology Explained Editorial on Feed Industry System	
Great Developments in Rural Food Industry (ZHONGGUO NONGMIN BAO, 6 Oct 83) .....	16
Rural Food-Processing Industry Flourishing (ZHONGGUO NONGMIN BAO, 6 Oct 83) .....	18
Spray Irrigated Farmland Area Increased (GUANGMING RIBAO, 1 Oct 83) .....	20
Rural Area Energy Resources Exploration Urged (Editorial; ZHONGGUO NONGMIN BAO, 4 Oct 83) .....	22
Development of New Measures for Saving Timber (Li Kaixin; RENMIN RIBAO, 7 Aug 83) .....	23
Ministries Urge Construction of Commodity Grain Base Counties (JINGJI RIBAO, 29 Sep 83) .....	26
Joint Notice Issued Commentary on Official Notice, Editorial	
Prohibition of Speculation in Grain Sales in Rural Areas (Editorial; JINGJI RIBAO, 22 Sep 83) .....	28

Development of <b>Preproduction</b> , Postproduction Services Urged (Long Cun; RENMIN RIBAO, 20 Oct 83) .....	30
PRC Makes Progress on Improving Red Soil (XINHUA, 25 Nov 83) .....	33
Survey Shows Beijing Residents Improved Diet (XINHUA, 16 Nov 83) .....	34
Production Increases in Mountainous Areas (XINHUA, 21 Nov 83) .....	36
Asian Crop System Work Group Meets in Hangzhou (XINHUA, 25 Oct 83) .....	37
Briefs	
Peasants in Sixth NPC	38
New Livestock Breeds	38
Loess Highlands Survey	39
ANHUI	
Briefs	
Anhui Bumper Crops	40
BEIJING	
Briefs	
Beijing Grain Harvest	41
GUANGDONG	
Development of Metropolitan, Suburban Agriculture Discussed (Lu Wen; GUANGZHOU RIBAO, 4 Aug 83) .....	42
GUANGXI	
Self-Managed Specialized Households (Tang Shengqi; NONGYE JINGJI WENTI, No 9, 1983) .....	46
HEBEI	
Long-Term Land-Use Contract Certificates Issued (RENMIN RIBAO, 25 Aug 83) .....	55
HEILONGJIANG	
Measures Adopted To Strengthen Land Management (RENMIN RIBAO, 30 Jul 83) .....	56
Briefs	
Heilongjiang Province Harvest	58
Heilongjiang Dairy Production	58



## HUBEI

- Commodity Fishery Base Counties Under Construction  
(ZHONGGUO NONGMIN BAO, 6 Aug 83) ..... 59

## HUNAN

- Necessity of Dealing With New Problems In Grain Procurement  
(Liu Zheng Interview; JINGJI RIBAO, 4 Oct 83) ..... 61

## JIANGSU

- Taihu Region Agricultural Development Reviewed  
(Gu Huanzhang, Zhang Jingshun; NONGYE JINGJI WENTI,  
No 9, 1983) ..... 64

- Briefs  
Fish Breeding Zone ..... 71

## JILIN

- Jilin Meeting on Developing Dry Farmlands  
(Jilin Provincial Service, 21 Nov 83) ..... 72

## LIAONING

- More on Liaoning Specialized Rural Households  
(XINHUA, 16 Nov 83) ..... 74

## SHANDONG

- Briefs  
Fertilizer Reward Rules ..... 76

PROBLEMS IN APPLYING AGRICULTURAL RESEARCH EXAMINED

Beijing NONGYE JINGJI WENTI (PROBLEMS IN AGRICULTURAL ECONOMICS) No 8, Aug 83, p 30

[Article by Li Weiwu [2621 5898 2976]: "Promote the translation of agricultural science and technology into direct productive forces"]

[Text] One major problem worth studying in our current national agricultural production is how to translate agricultural science and technology into direct productive forces, and moreover, how to seek out a reasonable path and select effective measures under the present circumstances to promote this kind of translation.

1. The Specific Problems in Translating Science and Technology

Nowadays, increases in a country's social productive forces and wealth are in large measure dependent upon its level of science and technology, its accomplishments in materialized knowledge and its "measure of science and technology" within production. As productive forces, science and technology are already increasingly manifesting their tremendous strength. However, as a sort of spiritual force in mankind's conquest and remolding of nature, science and technology are still a kind of latent productive force. This type of productive force is dependent upon various component key elements. If these various component key elements are combined with one another and with the primary objective conditions of the productive force, only then can they be translated into direct and actual productive forces. The transformation of science and technology into productive forces follows roughly the several kinds of patterns below:

One pattern is the central link running through science and technology: through technological invention and innovation scientific achievements are translated into new tools of production, new technology and new technological processes. They are translated into instruments of labor, and afterwards they enter the domain of production and create wealth. In agricultural production, for example, as a result of Mendel's "pea hybridization trials" and [Thomas Hunt] Morgan's "fruit-fly trials," the principles of organismic heredity were brought to light, erupted into a spectacular revolution in biology and brought sudden changes in breeding techniques. [Justus, Baron von] Liebig's research of the theory that plant nutrition is based upon mineral substances advanced such

scientific theories as the "reversion doctrine," and led to the appearance of a new technology of chemical fertilization. Developments in chemistry and microbiology initiated the new field of biological nitrogen fixation in science and technology. It was not until the development of molecular biology that the technology became possible to develop high-yielding, early maturing varieties having highly efficient photosynthesis and a lessened degree of self-consumption through respiration. Moreover, it was due to developments in science that all the new work tools and technological processes have been created and have opened up paths for agricultural industrialization, automation and electrification. Today, research in some major scientific theories--such as photosynthesis, chemical simulation of biological nitrogen fixation and utilization of cellular and genetic engineering--create one-day scientific breakthroughs in farm animal breeds and so forth that are economically extremely valuable. Moreover, they change the direction of applied research and production technology research so that latent productive forces then can be translated into actual productive forces, thereby causing changes of a revolutionary character in agricultural production.

A second pattern is in the essential material factor of osmosis from science and technology to the workers. Science is the productive force of apparent knowledge. In order to be changed into a direct productive force this must undergo scientific education and the transformation of its substance into a tool of production by men who have mastered scientific and technological knowledge. Only if scientific knowledge is mastered by the workers can the productive force of apparent knowledge be changed into a direct productive force. The tremendous progress in agriculture today is the result of adopting a simultaneous advancement of "investment in material resources" and "investment in intelligence."

A third pattern is in osmosis from science and technology to the objects of labor. Modern scientific discoveries and technological inventions have enormously expanded the objects of labor. For instance, such things as utilization of solar energy, nuclear energy and other new energy resources, exploitation of the oceans and awakening of great natural resources that have slept deeply for hundreds of millions of years, change of a number of waste materials into labor objects once again and so forth have caused the exploitation and utilization of natural forces and natural resources to follow in the wake of scientific and technological development and to be thrown into direct productive processes on a large scale.

A fourth pattern is in the attributes of productive force possessed by management. A highly effective system of economic administration and a scientific system of management in applied technology enable the various elements of technology to become a real composite force--an organic whole composed of the actual production objective and its coordinated operation. If one departs from the essential elements of productive force, then there is no way to discuss science and technology in conjunction with management and administration. On the other hand, if one departs from the combination of science and technology with management and administration, the essential elements of productive force cannot be said to further develop and elaborate in their practical usefulness. Abroad, science, technology and administration are currently called

the three pillars of civilization. According to relevant data, in the 55 years from 1900 to 1955, each time Norway's fixed capital rose by 1 percent, its production increased by 0.2 percent and each time its labor force increased by 1 percent, its production rose by 0.76 percent. However, each time its trained administrative personnel rose by 1 percent, its production increased 1.8 percent. At present, our nation is even more prominently lagging behind in agricultural management than it is in science and technology. Our agricultural managers are even more seriously deficient than are our agricultural scientists and technologists. Science originates in production and its end result lies also in production. The basic purpose of science and technology is to develop the forces of production. Our task lies in probing a specific channel for the translation of science into productive force and moreover to promote that kind of translation.

## II. The Major Factors Influencing the Translation of Agricultural Science and Technology

The translation of science and technology is influenced by several kinds of factors. One of these is the needs of society: science and technology can achieve rapid progress only if they are stimulated and driven by social and economic development. If science and technology depart from the needs of society and from economic profit, then they cannot be sure of a high level of strategic value and cannot obtain for themselves the support of society. A second factor is that science and technology are also restricted by self-construction and its evolutionary regularities. Likewise, there are regularities concerning the timing and the field in which science will make a breakthrough, as well as in the ways in which science is translated into technology and technology into direct productive forces. Science and technology can be translated as quickly as possible into direct productive forces only if their developmental laws are followed such that science, technology and production are interconnected in several areas and relayed through successive levels. A third factor is the capacity of science, as, for example, group research capacity in scientific ranks, testing of technological equipment, information channels in the literature, the optimum degree of structure in scientific work, the level of education and science among all nationalities and so on. All of these things restrict the translation of scientific and technological achievements.

Currently, our country is very inefficient in translating agricultural science and technology into productive forces. The major reasons are:

1. Disjointed national conditions and a blind rush to catch up. A while back, we had the mistaken viewpoint that Western technology was the only desirable type of technology and that existing modernization was precisely "Westernization." We sought the new, the most advanced, the highest and the most excellent in scientific research into agricultural problems. We paid attention to the most advanced technology and ignored the suitable technology, we wanted to have the "publicized" things that foreign countries had, we wanted to have the things that foreign countries did not have and we were engaged in "world science."

2. Development in the various fields of agricultural science and technology is unbalanced. There are certain fields in which our country already possesses suitable and unassailable capabilities. In agriculture, however, many production techniques having widespread, large-scale and broad-range influence have improved very little in a long time. There also exist the widespread evils of high consumption, high costs, low efficiency and low quality. In general, if grain seed selection technology is used it reduces the quantity of seed used by 20 percent. Based on the calculation that nationwide grain production used 30 billion jin of seed, if the whole area carefully selected seed, then 6 billion jin of grain could be saved annually. Further, if there was a serious imbalance in the proportion of nitrogen, phosphorous and potassium--for example, if we used 1:0.23:0.003 but the crop absorbed from the soil a proportion of 1:0.5:0.1 of nitrogen, phosphorous and potassium--and if this was rationally adjusted, this case alone could increase production by 20 percent. In 1979, 4.28 million tons of "effective composition" sodium bicarbonate represented 48.5 percent of the nation's nitrogenous fertilizer output. Due to surface application of granulated fertilizer, 70 percent of it was lost, whereas if we switched to deep application the effectiveness of the fertilizer could be raised by 50 percent--equivalent to adding 2.1 million tons of ammonium in a year. In harvesting, processing, storage, purchasing and transport there is an even greater quantity of scientific and technological problems with agricultural products and the means of production. Due to a shortage of drying equipment and other technology, more than 10 billion jin of grain is lost annually in the north. Due to a lack of cold storage and other preservation facilities, 38 percent of the total annual output of seafood either spoils or has to be salted. Each year 400 million jin of apples and 20 percent of all pears spoil due to storehouse and conveyance-related causes and so on. If these kinds of large-scale and broad-range problems in agricultural science and technology could be promptly tackled and resolved, it would enormously advance the development of agricultural production.

3. The popularization of achievements in agricultural science research is slow, and science and technology are unable to be translated promptly into direct productive forces. According to relevant data, the utilization ratio in American scientific research is 80-85 percent, and for England, France and West Germany it is 50-60 percent. However, our own utilization ratio is only about 30 percent. Research in agricultural science has already achieved success in some 5,700 items, but only about one-third are actually applied. Two-thirds of the scientific research achievements have been laid aside and neglected. The result is that specimens, exhibits and gifts abound and "exhibits are first-rate, but there are more than can be used up in many years." Even if they are put into production, it is often a case of "employment in spite of illness." From 1972 to 1978, altogether there were 340 new kinds of agricultural machinery successfully developed nationwide, and 131 kinds--39 percent--were put into production. There were 160 kinds--47 percent--that were not put into production and 49 kinds--14 percent--that remained essentially unproduced. Of the 131 types of new products that were produced, there were 33 types that for a variety of reasons were forced out of production after production had begun.

4. Agricultural science research organizations are divided into many independent systems, among which there is a lack of effective coordination. The limited numbers of scientific research personnel are spread too thin and it is



difficult for them to tackle key problems. On a low level, research problems are duplicated in large numbers so that there is a serious waste of labor. For example, the number of monoploid breeding units manufactured nationwide has actually reached more than 960. Crop and seed research organizations in Hubei Province have only 40 or so specialists in cotton breeding at both provincial and local levels, but they are scattered among 7 units. They have more than 50 specialists in rice breeding, but they are dispersed among 9 units. This sort of division of forces at every crossroads, with each doing things in his own way, cannot constitute a strength for tackling key problems.

2. We neglect investment in intelligence and we ignore "soft technology" (the policy-making capability and corresponding educational system that go along with technology). Farmers and cadres at the grass-roots level have low standards of scientific culture and management, and agricultural science researchers are scarce. In rural areas today there is still 30 percent illiteracy and a further 40 percent that are a grade-school level. Moreover, among these, the young or middle-aged comprise 30 percent of the illiterate. Many young farmers do not know how to till the land scientifically and they commonly "risk their lives struggling" in simple labor under the slogan "at spring planting select the seed, at rush harvesting and rush planting select the grain, and in the winter slow season, select the land," so that it is difficult to attain top quality and high output. Agricultural scientists and technologists are even more scarce, especially those at commune grade-one agricultural technology extension centers. For every 10,000 of the farming population, only 0.07 people have a college education, and if those with a polytechnical school education are added there are only 0.37. In Hubei's Jingzhou prefecture there are only 1.6 agricultural scientists and technologists for each 10,000 people, and for each 10,000 mu of cultivated land there averages only 0.9. By contrast, in America there are 331 highly educated agricultural scientists and technologists for each 10,000 of the farming population, and in the Soviet Union there are 154 per 10,000.

The various problems stated above have all hindered the integration of scientific research with production and have delayed the progress of translating science and technology into direct productive forces.

### III. Enthusiastically Promote the Translation of Agricultural Science and Technology

If we are to increase our speed and efficiency in translating agricultural science and technology into direct productive forces, we should insist upon the principle that science and technology be coordinated with and made consistent with economics and society. In accordance with national conditions we should determine the internal composition of science and technology and enable basic, applied and developmental researches to be maintained in the appropriate proportions. We should both base ourselves at home and gather in the acquisitions of various countries, practicing a system of agricultural technology that has suitable technology as its principal part. We should strengthen the transfer and popularization of advanced agricultural technology and impel an even faster translation of science and technology into productive forces. We should formulate rational scientific and technological policies to enable the complete activities of all of science and technology to be brought into line with the state plan and moreover to have corresponding legal restraints.

#### (1) Give Priority Status to Applied Research and Developmental Research

The internal composition of our agricultural science and technology ought not to stress "completeness"; it must highlight the major points and seek out its own best structure.

Basic, applied and developmental researches should be in appropriate proportion. If any one phase is neglected, it may lead to the suspension of the relay process from science to technology to production. Basic research achievements are the common wealth of all nations. Nowadays, when science and technology are rapidly utilized, if there is any weakness in basic research, then when later applied research and developmental research reach a certain level they will bog down due to the lack of new knowledge. However, to proceed from our actual agricultural conditions it is inadvisable to place our emphasis on basic research. The reasons for this are as follows:

A. The purpose of scientific and technological research is to be of service to economic construction and particularly to serve in the resolution of those agricultural production problems which have major economic effects. Applied research and developmental research directly resolve technological problems in agricultural production. Compared with basic research, they are also closer to, more direct and more important in resolving problems of human food, clothing, shelter and occupation. At the same time, giving applied and developmental researches priority status is beneficial in strengthening integration between basic research and production practice, in shortening the natural transformation cycle between scientific theory and production technology and in raising the efficiency of scientific transformation.

B. The translation of basic research achievements into applied technology is necessarily dependent upon specific factors, namely: the state of technological equipment; the composition of knowledge and capabilities and the ability to synthesize; the administrative standard; and the workers' level of technological skill. If a nation's technological and industrial level temporarily does not possess the conditions to translate the achievements of certain basic research projects into productive forces in a timely fashion, yet the nation has already put a great deal of effort into those basic research projects, then it may overstock on achievements to the point of creating a waste of human, material and financial resources. Our agricultural modernization is climbing up from a backward foundation: funds are seriously insufficient, much technological equipment is backward and our scientific research capabilities are deficient. Under these conditions, even if we made a great breakthrough in basic science we would be unable to translate it into productive forces for our own nation. We have reached the point that the emerging condition is one of "blossoming at home, bearing fruit abroad." Achievements are taken up and applied by advanced nations, giving their people the benefits from the labor of others.

C. Strengthening applied and developmental agricultural researches is an effective shortcut to the digestion, assimilation, synthesis, improvement, recommendation, accumulation and strengthening of a nation's own agricultural technology research capability. We want to create new things and things previously unknown to the world, but our emphasis ought to be put on embracing

and assimilating the technology that every nation already has and changing it to suit our own needs. Moreover, not just any advanced thing is automatically good; we must mainly look to see if it is or is not suitable to national conditions and national strengths. "If the mountain is not high but there is an immortal there, then it will be famous; if the river is not deep but there is a dragon there, then it will be wonderful."

On the applied and developmental agricultural researches that our nation engages in are possessed of rather good conditions. Not only can we fully bring into play the superiority of both central and provincial-level systems of research in agricultural science, but we can also mobilize the enthusiasm of local scientific research. There are more than 100,000 local scientific research stations nationwide. Among these, approximately half are local and county-level scientific research organizations, and their scientific and technological personnel numbers 100,000 people. This is a local force that our national agricultural science research facilities cannot ignore. A longitudinal view of world history shows that when a country is temporarily backward in science and technology and it proceeds from applied and developmental research to construct its own system of science and technology, then it gains time, vigorously develops science, economizes on human, material and financial resources and develops an effective channel for its national economy.

Hence our applied and developmental agricultural researches should take as their main target for attack those scientific and technological problems which are most valuable to the national economy and to the promotion of development in agricultural production. Further, it should consider the principal orientation of its scientific and technological research in agriculture to be the improvement of economic results. For instance, we should make a comprehensive appraisal of our agricultural natural resources. We should breed improved aggregate varieties from multiple strains to make them high yielding, top quality and highly resistant. We must bring under control the alkaline drought and flood plain areas of the Huang He, the Huai He and the ocean, as well as the northwestern loess plateau and the southern red earth and yellow earth mountainous areas. We should reform research on comprehensive technology in the 200 million mu of low-yield land. We need to synthesize preventative research into crop diseases, pests and grass blight by emphasizing biological prevention and cure. We ought to conduct research into the time periods and frequency of major weather disasters and design defensive countermeasures. We should conduct scientific and technological research into the many related management aspects in farming, forestry, animal husbandry, side-line production and fisheries. We must both lay stress on researching science and technology that directly advance economic production and also emphasize scientific and technological research that can reduce losses and prevent pollution.

## (2) Choose Correctly and Energetically Develop Suitable Agricultural Technology

The translation of scientific research into social productive forces depends upon a bridge of applied technology to join the two together. Science and technology cannot develop more effective functions unless the correct choice of technology is made and is shaped into a rational technological system. The



directize path to transforming agricultural areas into direct productive forces lies in correctly selecting and energetically popularizing suitable agricultural technology.

"Suitable technology" by no means points to one specific kind of technology. Precisely speaking, it is a kind of guiding ideology for the development of technology, proposed to suit the needs of the present situation. To accomplish a sort of theory of technology selection, the principal emphasis is on three areas:

A. "Suitable technology" emphatically does not mean stressing the level of the technology, but rather emphasizing the suitability of the technology, the optimum effectiveness that can be reached within modern, intermediate and backward technologies respectively and the diversification and multiple ordering of the technological typology. This includes, for example, the multi-ordered structure wherein automation, mechanization, partial mechanization and even manual labor exist side by side.

B. A review of suitable technology is not conducted simply by using any single criterion. Rather, one conducts a review of suitable technology by employing comprehensive economic and social criteria. The measure of suitable technology is that it completely utilizes one's own natural resource conditions, economizes on energy resources and consumption of raw and processed materials, is beneficial in safeguarding ecological equilibrium or at least has no ill effects on the environment, is advantageous to the complete development of our country's superiority in manpower resources and produces conditions for labor employment, and is beneficial in integrating the three areas of technological advancement, production feasibility and economic profitability. Naturally, any single unit of technology cannot simultaneously satisfy all of the above conditions. However, we should go by the specific conditions of the locality in carrying out the selection and in seeking the optimum "linkage point" between technology and the economy.

C. The fact that suitable technology employs the concept that the "suitable" supplants the "advanced" is more in keeping with the technical demands of various countries. Extension of the two concepts of "suitable technology" and "advanced technology" may show that they have parts in common. Accordingly, advanced technology at the same time can be suitable technology. However, certain less advanced technology--and even intermediate technology--also is suitable for any particular country or area. This, then, negates the lopsided view that considers Western technology to be the only desirable kind of technology, that sees modernization as precisely Westernization and that equates agricultural modernization with "mechanization."

Proceeding from the viewpoint above, in selecting and popularizing suitable agricultural technology for our nation, first we must choose and popularize the technology that suits the special characteristics of each area's natural resources and that advantageously brings into play each area's natural resource dominance. Secondly we must completely develop our superiority in abundant labor force resources, avoid the inferior position of having little tilled land, choose labor-intensive technology in order to open up new avenues for the labor

force and organize a production force setup that makes the labor force its top priority. Thirdly we must bring into play the superiority of our traditional agriculture and implement a technological system that makes mechanized agriculture its top priority, mutually integrates mechanized and non-mechanized agriculture and coordinates development. Fourthly we must launch research into suitable advanced technology that will have long-range influence on our nation's agriculture. For instance, this includes bringing into play and popularizing agricultural technology that emphasizes improving the solar energy utilization ratio, opening up and developing biological nitrogen fixation technology, popularizing technology to improve varieties of organisms, choosing technology that is biologically resistant and environmentally adaptive and researching more channels and more kinds of energy resources to synthesize and open up beneficial technology in rural areas.

### (3) Strengthen the Transfer and Popularization of Agricultural Science and Technology

If we want to gain the practical economic and social advantages brought by science and technology and enable science to be directly applied to production, then we must undergo the technological transfer and popularization process all the way from the accomplishment of scientific research to popularization and production.

The transfer of agricultural technology is both a vertical transfer from scientific research to productive application and a horizontal transfer from military industry to civilian use, from advanced enterprise to backward enterprise, from abroad to at home and from advanced areas to backward areas. Among the four horizontal transfers, it is the one from advanced areas to backward areas that has the broadest scope and the greatest potential and in which the foundation is most solid for improving economic advantages. Because of this, our nation's agricultural technology should establish a ladder-like transfer system. Advanced areas would constitute one level and would translate domestic achievements in agricultural science and technology into productive forces. At the same time they would introduce the advanced technology utilized abroad that they have digested and absorbed. Then they would transfer these to the second level, the second level in turn would transfer them to the third level and the third to the fourth level.

Popularization of science and technology involves the widespread utilization of new skills, new technology and new methods in agricultural production. No matter how advanced a scientific research achievement is, if it cannot be applied in practice, then it cannot be translated into productive force and thus has no real significance for agricultural production. Research achievements in agriculture should lay stress upon the following few points:

A. Correct policy decisions and guidance by leading bodies. Firstly, according to the locale's overall agricultural development requirements, the leadership must increasingly put forward direction, missions and demands on behalf of popularizing achievements in science and technology. Secondly they must establish organizations to coordinate the translation of achievements. These would consider the planning department their top priority and would have agricultural, forestry, scientific, technological, financial, educational and other

participating units. Thirdly they must determine items for popularization in accordance with the principles of production need, economic rationality and production feasibility.

B. Formulate policies beneficial to the popularization of agricultural science and technology. For instance, we should encourage the policy that agriculture and enterprise actively adopt new techniques, new technologies and new varieties. We should encourage and reward individuals and organizations that are engaged in the work of translating achievements in agricultural science and technology. We should clarify economic responsibilities in every aspect related to the transfer of achievements in science and technology.

C. Build a popularization network for agricultural science and technology. Provinces should set up commissions to coordinate science and technology; prefectures and counties should found scientific leadership groups; wards and townships should establish popularization stations; and production brigades should set up demonstration households and "science and technology households."

D. Strengthen the construction of agricultural science and technology ranks.

E. Quickly determine more ways of popularization and establish and perfect agricultural science and technology advisory and information systems. We should, for instance, organize scientific research, production and marketing and employ a fully coordinated process of cooperation. We should unite team locations and manage technology together, implement a contract system for popularizing agricultural technology and disseminate agricultural technology and scientific knowledge.

(4) Determine a Rational Policy on the Structure of Scientific and Technological Knowledge, Including the Three Areas of Material, Human and Information Factors

"Material factors" principally point to the financial assurance, material assurance and supply channel of science and technology. "Human factors" means that a correct policy in science and technology should arouse the enthusiasm of scientific and technological personnel and should make the training, educational, wage, academic degree and ranking, patent, reward and punishment systems, etc. of agricultural science and technology personnel the principal substance of research into agricultural science and technology policy. "Information factors" are the major conditions of development in modern agricultural science and technology. Presently, under the situation of an enormous intelligence and information vacuum, whether or not we can fully utilize intelligence and information is a major factor influencing the development of agricultural science and technology. Promptly and fully utilizing feedback information can advance the translation of agricultural science and technology into direct productive forces.

12510

CSO: 4007/20

# BEIJING JOURNAL ON DEVELOPMENT OF FEED INDUSTRY

## Development of Feed Industry Urged

Beijing JINGJI RIBAO in Chinese 25 Aug 83 p 2

[Article by Beijing Municipal Feed Corporation: "Develop Feed Industry in a Positive Manner"]

[Text] The Beijing Municipality's production potential for compound and mixed feeds has already reached 400,000 tons, and is in the initial stages of forming a coordinated feed processing system of large, medium, and small factories. At the same time, the municipality has utilized its resources, established an industry in processing such additives as bone meal and stone meal [shi fen 4258 4720], researched and formulated feed balances appropriate to its local conditions. In addition, the municipal government has conducted a number of training courses on feed nutrition, and trained and cultivated a group of specialized personnel.

The feed industry's initial development has already displayed its great superiority in such areas as:

1. Promoting feed industry development and rapidly increasing the volume of commodity products such as eggs and meats. At the present time, industrialized poultry raising by the state-run enterprises and the collectives has reached 5.4 million; and poultry raised by specialized and priority households has developed rapidly as well. Fresh egg sales for the whole municipality reached 81 million jin last year--a seven-fold increase over 1977. In the first half of this year, moreover, it was up more than 50 percent over the same period last year.
2. As payments and rewards for feed go up, the rate at which poultry and livestock are produced goes up as well. Experience in the municipality has shown that use of compound feeds can increase feed remuneration by 30 percent over pure grain; and mixed feeds, if blended appropriately, result in increased feed remuneration of around 20 percent. As the rate of production goes up, costs come down, increasing a feed unit's profits (or decreasing its losses), thereby raising managerial enthusiasm. The profits to be gleaned by peasant households using compound feeds in raising poultry are also relatively handsome. As a result, many households seek to develop into households specializing in poultry raising.

3. Conservation of grain. As feed remuneration goes up, the ratio of eggs and feed material comes down, and the standard feed amount supplied to state-run poultry farms has been adjusted downward three times in the past 3 years. In 1976, every jin of eggs sold would get 4.8 jin of grain, and now it is down to 3.2 jin. That is to say that by relying on compound feeds and the scientific way of raising poultry, 2 jin of grain can be used instead of the previous 3 jin, thereby realizing a one-third saving of grain.

4. Expand utilization of resources and increase social wealth. With the establishment of a feed industry, previously unutilized or underutilized resources can be relatively better utilized. In the past few years, the amount of stone meal and bone meal consumed annually by the feed industry has been about 10 million jin for each, and 400 to 500 jin of leaf powder such items as false indigo, while byproducts from processed grain oil and livestock products, remnant materials such as cake feed, and bone tankage have been rather well utilized.

If we are to accelerate the development of the feed industry, the following problems must be solved:

1. Better understanding. Compound feeds constitute a branch of science. When compound feeds are used to raise livestock and poultry, owing to their relatively complete nutritional elements and their special suitability for poultry and livestock digestive absorption, the payback on feed can be much higher than it was for our traditional "feed-them-anything-available" methods. The rate of production and economic efficiency can be greatly raised as well. In the case of industrialized poultry raising, at present, the average egg production of a laying hen in the municipality is around 20 jin, whereas if we follow through with compound feeds, we can raise this to 30 jin across the board.

2. Comprehensive planning. The development of the feed industry has to depend on the positive nature of all aspects of society. Through planning, the strength of all departments can be mobilized. Mechanized industry departments should include plans to manufacture feed equipment, organize specialized production, and ensure quality and quantity in order to speed up the building of a processing industry. At the moment, methionine and lysine are not produced but are urgently needed; and rapid plans for building factories for their production should be made. Research on the effective use of cottonseed, rapeseed, and flax seed cake should be strengthened. The various trace elements, vitamins, antibiotics, growth promoting elements, and antioxidants which are used as feed additives and the production of which is subject to chemical engineering and pharmaceutical department conditions must be planned for in a concrete way. Geroll and sugar alcohol processing, livestock production processing and fruit processing remnants should be more fully collected and utilized.

3. Construction funds problems. This can be solved with a little from the central government, a little from the locality, and a little from the enterprise itself.



4. Questions on technological transfer. To speed up the building of the feed industry, advanced equipment and techniques should be brought in.

5. Strengthening science and technology work. The task of studying feed blending, resource exploitation, and processing techniques is very important. If done well, it can lead to large-scale upgrading of economic efficiency. In order to strengthen this study, there should be centralized research organizations and research facilities in the enterprises as well. Advanced institutes and higher education facilities should be asked to do more to build up the feed profession and nurture urgently needed professional talents. At the same time they should have all the necessary experimental facilities and their inspecting and laboratory test instruments should be of advanced standards.

#### Terminology Explained

Beijing JINGJI RIBAO In Chinese 25 Aug 83 p 2

[Article: "Feed Industry Terminology Explained"]

[Text] 1. What is a compound feed?

Any feed which is combined according to a standard for the nutritional needs of livestock and poultry at each stage of their growth, taking into account the local feed resources and its varieties, quantities, and the price situations (including feed additives of various sorts), blended according to scientific methods, utilizing a finalized design of feed processing equipment to make up the feed in fair proportions, and which can be fed directly to livestock and poultry is called a compound feed. (It is also called full-value compound feed or complete compound feed.)

The superior features of compound feed:

1. Balanced nutrition, high feed effectiveness, ability to accelerate livestock and poultry growth, to shorten the growth period, to conserve on the amount of grain in feed, and to lower production costs.
2. Can economically and reasonably make use of feed resources, utilize to the maximum limit byproducts from grain, oil and processed food and the industrial remnant materials (e.g., bran, rice bran, pressed cake, bone meal, blood meal, feather meal and various kinds of feed yeasts).
3. Various non-nutritional additives added to compound feed to prevent disease, spur growth, and also facilitate storage.
4. Compound feed can be fed directly to livestock and poultry without further processing, cutting down on livestock feed industry equipment and labor.
5. As the formula of feed mixing becomes more scientific, quality standardized, and packaging regularized, these factors facilitate industrialized productions, increase production efficiency and lower the processing cost.

## II. What is premixed feed?

Feed which is blended in advance with various vitamins, trace elements, antibiotics, and growth promoters, pest eliminators, antioxidants, and antimold ingredients. Each of these trace amounts has a special function by itself and only a little is required. So care must be taken in measuring them correctly and diluting them with supplements and making sure that they are evenly mixed in specially made mixing equipment. The quality of the premixed feed is the key to guaranteeing compound feed and of upgrading feed effectiveness.

## III. What is concentrated feed?

Concentrated feed is also called balanced-use compound feed. Concentrated feed is premixed feed with which protein feed (animal or plant protein and necessary amino acids), along with mineral feeds (phosphorous, calcium, and salts) have been mixed. Once blended, concentrated feed has all the vitamins, trace elements, proteins, necessary amino acids, and non-nutritional additives needed for livestock and poultry. If to concentrated feed is added grain feeds in stipulated proportions (corn, sorghum, barley, crushed rice) along with other energy feeds such as wheat bran and rice bran, etc., through balanced mixing and processing, it becomes full-value compound feed.

(Feed Industry Leading Group Office)

### Editorial on Feed Industry System

Beijing JINGJI RIBAO in Chinese 25 Aug 83 p 1

[Editorial: "Establish a Feed Industry System With Our Nation's Unique Characteristics"]

[Text] Redoubling agricultural production means relying on diversified economy, one important aspect of which is vigorously developing the breeding industry. Forage grass and feed--especially the various nutritionally balanced, transformation-effective compound feeds--are the keys to increasing the commodity rates of poultry and livestock products. The establishment of a feed industry is of the greatest significance to the development of animal husbandry. At the present time in many economically advanced countries, the feed industry has already developed into a large, independent business. As the agricultural production responsibility system has developed over the past few years in our country, specialized households and priority households in raising livestock have appeared in great numbers. Mechanized feedlots also have flourished in cities and suburbs, bringing demands for a speedier development of a feed industry. As a result, vigorously moving forward the feed industry and promoting the development of the breeding and animal husbandry industries have become urgently important tasks.

China should begin the development of the feed industry realistically by establishing a feed industry system that is uniquely Chinese. Our country's

boundary is vast, and feeding customs and varieties of green and rough feed vary greatly. The grain used for feed is, moreover, dispersed in commune members' households. What the farmers lack primarily are the feed additives and scientific formulas which they cannot come up with themselves. At the moment the production of additives in the country is nil and the compound feeds are not up to standards. Thus, this is exactly the one area where the state should move swiftly to set up a variety of additive factories that require a high level of technology, are difficult to make in localities and impossible for farmers to make themselves. We should change this situation in which there is only one kind of feed for livestock and poultry, protein feeds are inadequate and animals are fed whatever is available.

In another regard, our country has a number of utilizable feed resources which are not being used fully or logically. There are also large amounts of industrial byproducts and remnant materials from grain, light industry and chemical engineering industries whose use can be coordinated to produce protein feeds. Furthermore, rural areas in all locations can bring into full play the strong points of communes and brigades, exploring widely feed resources suitable to local conditions and relying on local materials. Plan and establish all types of small-scale feed processing plants in an orderly fashion, engaging in local processing. If the potential in all these areas can be brought into full play, we can gradually create a state constructed advanced factories as the core, and a complete feed industry system whose main feature is being small-scaled and having a combination of large, medium and small units.

The establishment of a feed industry has already captured the attention of various concerned departments. At present, we must coordinate forces in all areas to construct this enterprise scientifically and in an organized fashion. First, the plans and precepts for a feed industry development must be firmly formulated. The objectives, principles, policies, measures, steps, and methods of the development must be clear and accurate. Special attention should be paid to solving the questions of feed price, business profits, factory construction and planning, and the import of equipment, so that the economic and social benefit of the feed industry can be increased and the healthy development of the fledgling industry can be spurred.

12303

CSO: 4007/242



## GREAT DEVELOPMENTS IN RURAL FOOD INDUSTRY

Beijing ZHONGGUO NONGMIN BAO in Chinese 6 Oct 83 p 1

[Article: "There Should Be Great Developments in Rural Food Industries"]

[Text] Along with the development of the national economy, the rural food industry in China is currently transforming its backward condition into a new burgeoning industry. In order to meet the daily increasing needs of rural people, the rural food industry must be greatly developed.

Development of the rural food industry can permit full utilization of farm and sideline product resources, and increase the commercialization of agriculture. The rural economy has developed rapidly in the past few years, and there has been a great increase in farm and sideline products. After completing state purchase and requisition tasks, development of food processing industries is a very real marketing future. There are large amounts of many types of farm and sideline products which spoil easily or are difficult to store. Local processing can reduce the number of unnecessary intermediate links, and can reduce back-and-forth shipments and the pressures on transport and communications as well.

By transforming simple supply of raw materials into supply of finished or semifinished products, local processing of farm and sideline products can result in a greatly increased value of production. This can help to make the peasants and the country richer.

Development of rural food industries can promote the healthy development of commune and brigade enterprises. Food industries run by commune and brigade enterprises can guarantee raw materials and expand markets. Development of food industries can promote the development of cropping and animal husbandry, and can provide a good cycle for agriculture.

At present, the proportion of commune and brigade enterprises which are food industries is too small. The trade distribution and product structure of commune and brigade enterprises must be readjusted to increase the proportion of food industries and cause them to become a major aspect of the rural commercial economy.

Attention must be given to restoring and developing traditional food-stuffs when developing rural food industries. At present, many traditional food production techniques have been lost or are nearly lost. Old craftsmen must be helped in organizing technical materials, and they should be permitted to take on apprentices to hand down processing techniques. In addition, there should be a strengthening of research on traditional foodstuffs and improvement of technical equipment. Furthermore, there should be establishment of specialized raw materials production base areas and development of special product resources according to local soil conditions, climate, cropping techniques and the customs of the masses.

There is a great future for the development of food industry. All areas should organize their strengths in order to do censuses of food resources and analytical research, and make overall plans according to different regional conditions. Individual families can process farm products and raw materials, but distinctions should be made according to product types. It is inappropriate to build factories in every village. There should be appropriate centralization in order to give play to the superiority of the food industry of a locality. Food industry backbone enterprises should be established. Joint venture factories can be established to line up cities at the top and specialized families joined together at the bottom, in order to centralize scattered farm and sideline products and achieve their rational utilization, as well as to link up urban and rural production and marketing channels.

Food product associations or food companies can be relied upon for work in responsibility and specialized management, personnel training and so on.

12539

CSO: 4007/55

## RURAL FOOD-PROCESSING INDUSTRY FLOURISHING

Beijing ZHONGGUO NONGMIN BAO in Chinese 6 Oct 83 p 1

[Article: "The Rural Food Industry is Flourishing--Transforming Self-Sufficient Processing into Commodity Production"]

[Text] The nation's rural food industry is flourishing. According to incomplete statistics, the gross value of output of commune and brigade food industries increased from 3.83 billion yuan in 1980 to about 6 billion yuan in 1982, an average annual rate of increase of 27.9 percent. This year, looking at developments in the first half of the year, the situation is even better than last year. For example, in Zhejiang Province the value of output created in commune and brigade food industries in the first half of the year reached 185 million yuan, a 29.9 percent increase over the same period in 1982.

Commune and brigade food industries have developed slowly in the past. Most of them were involved in milling rice and wheat, pressing oil crops and other noncommercial production. They could only serve the basic living needs of local peasants. After implementation of the rural economic policies of the 3d Plenary Session of the 11th CPC Congress, the peasants' rights to utilize farm products and raw materials were expanded. Undertaking integrated management of agriculture, industry and commerce has opened up new roads of development for rural food industries. New special characteristics of commune and brigade industries have appeared:

--Transformation from self-sufficient processing to commercial production. The many types of food industries are orienting themselves toward society, serving rural markets, cities and foreign trade, and are raising the utilization rate and value of farm and sideline products.

--The quality of enterprises and products has greatly increased. Not only can they produce elementary products, but they can also make high-class food products as beautiful as those from large urban industries. Several hundred types of traditional local foods have been restored.

--The peasants have a strong incentive to invest their own capital to set up food products plants. Joint family management and other new forms have shown their vitality.

Practice has proven that rural collective processing of foodstuffs has three major merits: The first is that there are many key areas over a broad area, they are small scale and scattered, and they are highly adaptable. The second is that raw materials are obtained locally and processed locally, they are economically rational, doors to resource utilization are opened, and utilization rates of resources are increased. The third is that self-production and self-marketing benefits the state and the enterprises, and is convenient for the masses.

12/39

CSO: 4907/35

## SPRAY IRRIGATED FARMLAND AREA INCREASED

Beijing GUANGMING RIBAO in Chinese 1 Oct 83 p 1

[Article: "Spray Irrigated Farmland Area in China Has Reached Over 14 Million Mu--Give Play to the Superiority of Water Conservation and Increased Production, Actively Develop Spray Irrigation Technology"]

[Text] After undergoing demonstration and extension, spray irrigation technology in China has already begun to move toward stable development. According to statistics, the national area controlled under spray irrigation project installations reached over 14 million mu by the end of July of this year.

Spray irrigation is a new farmland irrigation technique which conserves water, increases production and is highly adaptable. The results of several years of experimentation in related units indicate that spray irrigation can lead to 10 to 20 percent increases in production over border irrigation methods, while reducing per-mu water utilization by 40 to 50 percent. The key areas of spray irrigation techniques in China are in mountainous and hilly regions where there is substantial difficulty in irrigation and water resources are insufficient, as well as in industrial crop regions where the economic value is high. Peanuts are a primary oil crop in Shandong Province; some 8 million mu are planted annually. However, areas producing peanuts are mostly hilly or sloping land with poor and shallow topsoil, sparse water resources, and low unstable yields. The results of key extension area of spray irrigation techniques for peanuts are very obvious. For example, in Zhu Jia Kuang Brigade, Miao Hou Commune in Qixia County, peanut yields fluctuated around 250 jin per mu. After installing spray irrigation and other techniques, yields rapidly increased to over 600 jin per mu.

In order to accelerate the development of spray irrigation techniques, technical training must be strengthened in all areas. At present, there are over 3,000 spray irrigation technical backbone cadres at the county level and above. They are capable of planning and design, can direct construction, and they play an important role in increasing the quality of spray irrigation projects and good management.

After the establishment of economic responsibility systems in rural areas, all areas have universally strengthened the scientific management of spray irrigation projects. Some areas have set up spray irrigation technical service companies or specialized spray irrigation technical teams on a trial basis. Henan, Hunan, Shanghai and other provinces and municipalities have established spray irrigation project management methods which have obtained excellent results.

12/39

CSO: 4001/35

# RURAL AREA ENERGY RESOURCES EXPLORATION URGED

Beijing ZHONGGUO NONGMIN BAO in Chinese 4 Oct 83 p 1

[Editorial: "Treat Rural Energy Resources as an Important Matter"]

[Text] Eighty percent of China's population lives in rural areas, and the peasants' standard of living is gradually improving. Looking at the long term, energy requirements will continue to increase. The state has adopted policies to support the exploration of rural energy resources, but rural areas cannot depend completely on state investments. For this reason, leading organs in all areas must base themselves on the local area and rely on the broad masses to open up rural energy resources. This matter must be grasped as a strategic measure.

In terms of the nation as a whole, opening up rural energy resources is still in the initial stages. It requires strengthened leadership and administration to systematically grasp planning, scientific research, equipment manufacture, dissemination of experiences, as well as related policy questions. There are various types of rural energy resources: creation of fuel forests, construction of methane-generating pits, setting up small hydropower stations, opening small coalpits, using solar, wind, geothermal and tidal energy, and so on. All areas should resolutely adapt to local conditions, work together to make up for shortages, achieve rational utilization and strive for efficiency. At the same time, while opening up energy resources, attention must be paid to reducing expenditures. Efforts should be made to popularize in a short period of time various types of stoves which conserve wood (or coal), to increase the burning efficiency of firewood. Only if the question of peasants' cooking is resolved will it be possible to avoid a situation where trees and grass are planted in order to attain a favorable ecological cycle in agriculture, only to have the forests and grass cut down.

12539

CSO: 4007/35

## DEVELOPMENT OF NEW MEASURES FOR SAVING TIMBER

Beijing RENMIN RIBAO in Chinese 7 Aug 83 p 5

[Article by Li Kaixin [2621 7030 9207], director of State Administration of Supplies, on timber conservation and timber substitutes]

[Text] Timber is an important material which is indispensable for both economic construction and the standard of living of the people. It is widely used and in great demand. However, since our country's forest coverage ratio is low, and it is short in timber resources, in order to maintain the ecological balance, it is not possible to have a large increase in the cut of timber in the near future. For this reason, in the next few years, timber will be among the commodities in shortest supply. According to the regulations of the Sixth 5-Year Plan, the total output value of industry and agriculture should increase 4-5 percent annually, the increase of timber being only 0.5 percent a year, of which the increase rate of timber to be procured within the state's plan is only 0.3 percent. In the course of realizing the quadrupling of the total national agricultural output value, the conflict between supply and demand of timber is among the more outstanding problems. However, due to the low overall utilization ratio of timber in our country, the imbalanced development of timber conservation and timber substitutes and their irrational utilization and widespread waste, timber conservation has great potential.

Ever since the 3d Plenary Session of the 11th CPC Central Committee, various districts, departments and enterprises enthusiastically launched the timber conservation and timber substitution work and achieved notable results. From 1980 to 1982, the entire country conserved and substituted a total of 17.62 million cubic meters of timber within 3 years. The average amount of timber conserved and substituted each year has been equivalent to one-fifth of the state's timber procurement plan, and equal to the annual timber production of over 20 medium forestry bureaus. At the same time as this, some experiences in timber conservation and timber substitution were gradually obtained, and a new road in timber conservation and timber substitution has thus been taken. It is mainly manifested in the following three aspects:



Popularization of timber substitutes. The appearance of various kinds of new material and new commodities created favorable conditions for the popularization of the usage of timber substitutes. In recent years, timber substitutes have been utilized in large quantities in construction, production and packing. First, the use of steel to replace timber. The timber used annually in basic construction reached over 10 million cubic meters in the entire country. Of which molds, scaffolds, doors and windows made up over 70 percent of the timber used. The adoption of steel molds, scaffolds and steel windows as substitutes not only alleviated the shortage in basic construction timber, but also improved construction quality and efficiency and obtained better economic results. According to accountings, steel molds can usually be used repeatedly for about 50 times, and is 40 percent cheaper than using timber molds. Secondly, the substitution of mine timber with nonwooden supports. The annual consumption of mine timber by the entire nation's mines was 7.50 million cubic meters, making up about one-fourth of the nation's timber distribution, and was a big consumer of production timber. In recent years, the adoption of metal and concrete products to replace mine timber changed the situation of "When it is time to mine coal, it is time to change mine timber." The timber allocation for the mines of the entire country for every 10,000 tons of coal produced was 260.4 cubic meters in 1962, however, by 1982, it had gone down to 90.9 cubic meters. Third, the substitution of packing timber with plastic products, etc. Compared to wooden boxes, plastic packing boxes are superior in lightness, solidity, sterility, resistance to moisture and ease in cleaning. Currently, they are being widely used in many big cities.

Development of comprehensive utilization of timber. In our country each year, in the course of felling, manufacturing and processing timber, there are large quantities of remainder which, after machine processing and chemical treatment, can be made into manmade board, such as fiberboard, shaving board, joinery board, and nearly 30 kinds of industrial chemicals such as furfural, alcohol, dry ice, acetic acid, and creosote oil. Currently, instead of dispersed processing by enterprises and businesses, many cities change the distribution indication of timber, and let the timber-processing enterprises of the goods and material department do centralized processing nearby according to needs, and do centralized supply of finished timber, products and semifinished products. At the same time, they vigorously practice comprehensive utilization, develop "three boards" and other by-products, thereby increasing the timber utilization ratio on a large scale. According to the statistics of timber companies in the 19 cities with timber marketplaces, the comprehensive timber utilization ratio has increased from about 60 percent to 81.2 percent. By now, 48 medium and large cities in the entire nation have adopted this kind of centralized processing and centralized supply methods. The utilization of felling remainder in the forest for producing artificial board has attained better economic results.

Pay close attention to firewood conservation in the forest and recall waste and used timber in the timber marketplaces for reuse. Statistics shows that the total timber used as fuel in the forest reaches tens of millions

of cubic meters every year, an astonishing waste. The practice of firewood reforms in recent years has obtained preliminary results. In the northeast and Nei Moggol forest area, the amount of timber used for fuel by staff and workers was 9 million cubic meters in 1974, but went down to 7 million cubic meters in 1981, of which 1.4 million cubic meters was branches. The conservation of firewood in the forest area is an important task. All concerned departments should enthusiastically create the preconditions for conservation and provide the forest area with economic and practical fuel and energy, thereby progressively replacing firewood. Both administrative and economic measures should be adopted to strictly prohibit the use of timber in industrial boilers, to popularize firewood-conserving stoves among residents, and to mobilize staff and workers not to use good timber as firewood. At the same time, we should recycle packing boxes, mine timbers, timber used for padding steamers' cabins, and cardboard, etc.

Conservation aids in the very important task of developing timber resources. We should work conscientiously to do it well.

12369

CSO: 4007/229

MINISTRIES URGE CONSTRUCTION OF COMMODITY GRAIN BASE COUNTIES

Joint Notice Issued

Beijing JINGJI RIBAO in Chinese 29 Sep 83 p 1

[Article: "A Notice from the Ministry of Agriculture, Animal Husbandry and Fisheries, the State Planning Commission, the Ministry of Commerce and the Ministry of Water Resources and Electric Power Calls for Strengthened Leadership to Firmly Grasp Construction of Commodity Grain Base Counties"]

[Text] The state is currently making investments to construct 50 key commodity grain base counties in conjunction with the Heilongjiang, Jilin, Henan, Hubei, Jiangxi, Anhui and Jiangsu provinces. Most recently, a joint notice issued by the Ministry of Agriculture, Animal Husbandry and Fisheries, the State Planning Commission, the Ministry of Commerce and the Ministry of Water Resources and Electric Power calls on these eight provinces to strengthen leadership and firmly grasp construction of base counties.

From the middle of June to the beginning of August, the Ministry of Agriculture, Animal Husbandry and Fisheries, the State Planning Commission, the Ministry of Commerce, and the Ministry of Water Resources and Electric Power have sent investigation groups to look into work of constructing key base counties according to agreements on construction of key commodity grain base counties. Progress was relatively fast in Heilongjiang and Jilin. About 50 percent of investment totals for 1983 were completed by the end of July; roughly 20 to 25 percent have been completed in Hubei, Anhui and Jiangsu. Progress in Hunan, Jiangxi and Henan has been a bit slower. It was discovered during the investigations that certain provinces and counties had diverted the special funds and materials to other purposes, while other counties had utilized the funds in a scattered way, thereby delaying progress in the projects.

The notice calls on the provinces with base counties to strengthen leadership, to perfect administrative structures, to make timely transfers of steel, lumber and cement, to utilize the special funds and materials for the correct purposes, to centralize capital utilization, and to rectify the instances of diversion of funds.

Commentary on Official Notice

Beijing JINGJI RIBAO In Chinese 29 Sep 83 p 1

[Editorial: "Make an Effort to Firmly Grasp Construction of Commodity Grain Base Areas"]

[Text] A lot of work has been done in construction of all 50 key commodity grain base counties, and several counties have made relatively rapid progress in their work. There are, however, several problems. While it is true that some problems are related to late starts, insufficient supplies of steel, lumber and cement, and inadequate experience, the main reasons are that not enough attention has been given to this area of work in some provinces, and that leading bodies and administrative structures are incomplete, thereby influencing the development of this task.

Leadership must be strengthened in order to speed up the construction of base counties. First of all, in terms of ideology, it is essential that the importance of constructing commodity grain base counties be clearly understood. In terms of the present and the future, we are still poor in grain. Per capita grain at present is only 700 jin. If we use the figure of 800 jin per capita by the year 2000, it will be necessary to attain a total output level of 960 billion jin. It will take a lot of hard work to complete this task. The northwestern region of China must undergo a fundamental transformation to take land out of cultivation and convert it to pasture and forests in order to develop animal husbandry. Commodity grain areas must produce more grain and make greater contributions if we are to achieve this strategic direction. For this reason, leadership departments in the eight provinces must take a broad, long-term perspective and make efforts to fully grasp base area construction.

Secondly, effective leadership groups must be established to strengthen guidance of construction work. The actual conditions of agreements must be frequently investigated, especially in order to ensure that special funds and materials are being properly used. Capital and the "three materials" [steel, lumber and cement] should be primarily used for small-scale farmland water conservancy, construction of improved breeding systems and extension of science and technology. The phenomenon of willful diversion must be rectified to guarantee that state investments are transformed into new productive capacity.

The construction of key commodity grain base counties involves a reform of the agricultural planning system in China. Through practice, not only is increased grain production necessary, but so is summarization of experiences in using limited capital to create substantial economic benefits. There are only 3 months left in the year. Completion of construction schedules is possible if we strengthen leadership and firmly grasp our work.

12539

CSO: 4007/34

## PROHIBITION OF SPECULATION IN GRAIN SALES IN RURAL AREAS

Beijing JINGJI RIBAO in Chinese 22 Sep 83 p 1

[Editorial: "We Must Certainly Guarantee the Completion of State Grain Purchase and Levy Tasks"]

[Text] In January of this year, along with policy readjustments in farm and sideline products purchase and sales, the Central Committee reaffirmed that it would continue to carry out state purchases and levies of grain and other farm products related to national plans and the people's standard of living. An area may open up other channels for grain sales only after it has completed its purchase and levy tasks. However, during the summer grain purchase period in some places, before completing their grain procurements tasks, there has appeared the phenomenon of certain units or individuals meddling in grain administration and making illegal profits. Individuals have even been engaging in deceptive practices and market domination, and doing what they please. This cannot be permitted.

Grain is a material of primary importance. Grain administration must firmly adhere to the policy of taking the planned economy as the major factor and market regulation as the subsidiary factor. State planned grain purchase tasks (including procurement tasks for different product types) are orders, and their completion must be assured. Grain can only be sold and shipped to other counties or provinces after completing procurement tasks, with the county as the unit, and the actual time must be determined by the county people's government. Any handling of grain outside the grain system that is done by state-run commercial units, supply and marketing cooperatives, and other commercial units, as well as by commercially licensed individuals, must be approved by industrial and commercial administration management departments. Any commune or brigade collectives, individual peasants or partnerships which take part in annual or seasonal sales and shipment must register with industry and commercial administrative management departments, and must pay all legal taxes as well. Units and individuals who handle grain must observe all relevant decisions of the State Council. Deceptive practices, market domination, hoarding and profiteering, and driving up grain prices are strictly forbidden.

Enterprise employees are not permitted to administer, sell, ship or speculate in industrial or agricultural products, including grain. An enterprise has the right to discharge or punish anyone who seriously violates the law and discipline, and who refuses to mend his ways after repeated admonitions. Moreover, it can legally investigate and affix economic and legal responsibility for these activities.

Planned purchase of summer grain is but one part of annual planned purchases. In order to guarantee the completion of planned grain purchase tasks, before summer planned grain purchase tasks have been completed, places can be permitted to establish additional administrative channels after completing seasonal purchase tasks, but not everyone can become involved in purchasing grain. Under conditions of incomplete fulfillment of grain purchase and levy tasks in regions which have suffered natural disasters, persons who become involved in purchasing grain or who engage in grain sales can influence the stability of grain prices, market stability and the handling of the people's standard of living in disaster areas. This must be resolutely stopped.

At present, planned purchases of middle-season rice are in progress in the south, and planned purchase of fall grains will begin soon. It is hoped that all areas will pay attention to education of the peasants concerning the "three overall considerations" [the interests of the state, the collective and the individual] and guarantee the qualitative and quantitative fulfillment of state grain purchase and levy tasks. Additionally, we must earnestly strengthen management of grain markets, manage their affairs according to the spirit of the decisions mentioned above, and we must firmly and promptly deal with violators.

12539

CSSO: 4007/34

# DEVELOPMENT OF PREPRODUCTION, POSTPRODUCTION SERVICES URGED

Beijing RENMIN RIBAO in Chinese 20 Oct 83 p 5

[Article by Long Cun [7893 6722]]

[Text] Pay Attention to Administration and Circulation

Following the flourishing development of commodity production in rural areas, the problem of how to best carry out pre- and postproduction work has become increasingly important in rural work.

For a long time, there has been a deviation in our work of "stressing production and ignoring administration; stressing production and ignoring circulation; and stressing production while ignoring finance." There is a point of view which says, "it's fine just to produce more things," and considers circulation to be unimportant, and can hardly imagine that if circulation is impeded, a bumper harvest can become a disaster. Considerable amounts of fresh fruit, eggs and milk are lost to spoilage every year. Such shortages arising from abundance are quite common. Development of rural commodity production and changes in administrative forms following the production responsibility system require the development of rural commodity circulation among the broad masses, in order to develop multiple channels and levels, as well as new forms of pre- and postproduction services. Clearly understanding and fully grasping this trend, and grasping administration, circulation and various types of pre- and postproduction work are necessary for developing this important role in the new situation in rural areas.

## Provide Multifaceted Services

Circulation is a central link in pre- and postproduction services. Pre- and post production services have an abundant content, with eight major aspects:

**Information Services:** Supplying timely and accurate information is the basis of formulating correct management policies. Apart from grain and other basic living materials, most commodities produced in rural areas are subject to restrictions of market demand and purchasing power. There are



rapid changes and large swings, and it is common for "the situation to be different from morning to night." The peasants urgently need to be supplied with market reports to guide them in producing marketable products.

**Young Animal Services:** The key points of rural commodity production are cropping and breeding. The sufficiency and quality of young animals greatly influence production. In many places, improved-breed base areas have been set up at each level in order to meet the need for young animals in many aspects; many other areas have also developed specialized families for breeding young animals, in order to supply high-quality piglets, chicks, etc.

**Feed Services:** China consumes some 100 billion jin of feed grains annually. If this entire amount were changed over to mixed feeds, some 30 billion jin of grain could be saved. This is a major line of activity. Based on data from Hai An County in Jiangsu and other relatively developed feed industry areas, it is entirely possible to conserve roughly one-third of feed by correctly mixing feeds and promoting scientific feeding. At the same time, many different feed sources should be opened up, such as raising earthworms and snails, raising sterile flies in containers, developing bacterial and chaff feeds, etc.

**Technical Services:** Plant protection, cultivation, epidemic prevention, energy conservation, etc., all require a substantial amount of technical services. Some areas have set up various types of special technical study classes, and others have set up technical advisory service offices, while other areas have developed technical contracts and established various types of scientific and technical demonstration families: "Train one family and the news spreads to all." These methods have all obtained good results.

**Capital Services:** Permitting the circulation of capital within a certain sphere to resolve capital shortages in places where there are possibilities for activities but no money is available. In other areas there are excessive amounts of idle funds that cannot be used, and other problems. Rural capital can become more useful through the granting of loans by the Agricultural Bank, stock purchases and pooled investments by the peasants themselves, partial supplements from trade, and other methods. The peasants say, "Commodity circulation requires the circulation of paper money." Money must be used where it does the most good before it is possible to do more things while spending less money. Credit cooperatives can play a major role in this realm.

**Processing and Storage Services:** Many fresh or live commodities in rural areas are often lost due to inadequate processing and storage measures. Some areas have paid attention to processing farm and sideline products, and have developed a complete sequence of services for production, processing and sales. This has increased the value of commodities and raised peasant income; it also opens up new spheres of production and accommodates large amounts of surplus labor in rural areas. Zhongxing



Brigade in Haimen County, Jiangsu, raised and borrowed 350,000 yuan to set up a 300 ton storage freezer, and the established a popsicle factory and another subsidiary factory. Net profits were 200,000 yuan in 1982.

**Transport and Sales Services:** According to the experiences of some areas, encouraging local people to develop communications is a good method of supplementing insufficient transportation capabilities. In the canal network area of southern Jiangsu, more than half of the water transport depends on the peasants themselves. In Liuhe County, there is an average of 1 transportation implement for every 16 families. Every day, a mighty specialized transport and sales brigade of peasants riding bicycles across the Changjiang bridge brings a steady supply of chickens and ducks from northern Jiangsu for the cities of southern Jiangsu. This saves energy and develops a large number of specialized transport and sales families.

**Insurance Services:** Farm and sideline production face risks from both natural and social causes. "Disasters are hard to forecast." There is an urgent need to provide insurance services for the peasants. Apart from insurance services provided by insurance companies, veterinary stations and other units in some areas, there is insurance provided by the peasants themselves through associations and other forms, supplying complete or partial replacement of accidental losses. All in all, this is the weakest link in the service sphere and still has not received sufficient attention.

#### Expanding Service Channels

The breadth of pre- and postproduction services necessitates an adequate position and strength of services before the needs of developing commodity production can be met.

Supply and marketing cooperatives are an important channel of services. They have many networks, sufficient capital, fresh information and a lot of personnel. Apart from grain, 60 to 70 percent of farm and sideline commodities are handled by supply and marketing cooperatives, which are the most abundant force. New specialized service companies of various types have their own good points when undertaking specialized services. This is especially true in the areas of supplying technical assistance, young animals, feed, etc., where they should play a major role. Some existing commune and brigade enterprises have also undertaken some service work; some have expanded from production services to providing services for the people's standard of living, such as complete housing construction services for farm families, and so on. Another new form is associations and federations organized by local people to provide transport and sales services or technical guidance.

Many types of services are springing up like mushrooms and should gradually combine to form a complete pre- and postproduction service system. The leadership tasks include work in direction, management, improvement and coordination in order to coordinate activities and provide a role for each one.

12539

CSO: 4007/35

PRC MAKES PROGRESS ON IMPROVING RED SOIL

OW250935 Beijing XINHUA in English 0648 GMT 25 Nov 83

[Text] Nanjing, 25 Nov (XINHUA)--China has made satisfying progress on improving red soil by applying fertilizers and trace elements, according to Professor Li Qingkui, president of the Chinese Society of Pedology.

The red soil areas, the country's major producers of grain and industrial crops in southern China, cover an area of two million square kilometers, accounting for 21 percent of the country's land.

Red soil research has played an important role in rubber cultivation in Guangdong and Yunnan, Li Qingkui said. Scientists have succeeded in introducing rubber cultivation to subtropical areas, including red soil regions, in the southern parts of the country. China now has 460,000 hectares in rubber trees, making the country the world's fifth largest producer of rubber.

Adding potash and zinc fertilizer to the red soil paddy fields in Jiangxi and Hunan Provinces and the Guangxi Zhuang Autonomous Region has brought about increased rice yields, Professor Li said.

Chinese scientists began research on red soil in the early 1950's. There are now over 2,000 people engaged in this work with scientists at the Nanjing Institute of Pedology guiding the studies.

Eleven provinces and one region have been studied. The soil has been improved by fertilizers and addition to specific amounts of lime, phosphorus, potassium and trace elements. These greatly increase the fertility of the red soil.

Chinese scientists have also published a number of books on red soil research including "The Red Soils of China" and "The Subtropical Soils in Central China."

A recent international symposium in Nanjing on red soil was attended by 70 scientists from eight countries. Chinese scientists reported on their current work. Professor W. G. Sombroek, secretary-general of the International Society of Soil Science, recommended that Chinese soil scientists take part in red soil research in some African countries.

CSO: 4020/39

## SURVEY SHOWS BEIJING RESIDENTS IMPROVED DIET

OW161244 Beijing XINHUA in English 1149 GMT 16 Nov 83

[Text] Beijing, 16 Nov (XINHUA)--Beijing residents are now getting nearly enough protein and calory--but too much fat and salt, according to a recent survey.

The survey, by the food research office of the Beijing Municipal Sanitation and Anti-Epidemic Station, sampled 7,605 people in over 200 local homes, nurseries, kindergartens, schools, old people's homes and government departments.

It indicated that urban residents eat an average of 1.33 kilograms of vegetables, meat and bean-based foods each day, compared to 1.16 kilograms in the city's rural outskirts. Both figures were 0.25 kilograms higher than those recorded in China's first national nutrition survey in 1959.

Urban dwellers took an average of 2,371 calories and 68.2 grams of protein daily, against 2,512 calories and 67.1 grams in the countryside. Both amounts approached normal human needs, the survey said.

It added, however, that while Beijing residents were getting more meat than ever before, they were also eating too much fat pork--creating a tendency toward swelling waistlines, especially among children in nurseries and schools. In eight local primary schools, it said, 2 to 3 percent of the children were 20 percent above normal weight standards for their age group.

The survey also urged people to cut back on their salt intake, to lessen the burden on their heart and blood vessels. Beijing residents eat an average of 17 grams of salt each day, it said, about 7 grams above the proper level.

It called for higher consumption of bean-based products, to carry forward Chinese traditions of eating higher amounts of plant protein. One kilogram of beans contains 300 grams of protein, it added, more than in grains, vegetables, fish, meat or eggs.

At a meeting on nutrition held last month, specialists recommended short-term readjustment in Beijing diets. Each person should eat a monthly average of 12.5 kilograms of grain, 15 kilograms of vegetables, 2.5 kilograms of meat, 1.25 kilograms of eggs; 0.75 kilograms of fish, 0.5 kilograms of vegetable

oils, 2.5 kilograms of milk, 3 kilograms of fruit, and 0.25 kilograms of salt, they said.

Government departments are now working out plans to raise production of lean meats and other low-fat foods, according to Beijing's Food Industry Office.

CSO: 4020/39

## PRODUCTION INCREASES IN MOUNTAINOUS AREAS

OW211018 Beijing XINHUA in English 0858 GMT 21 Nov 83

[Text] Beijing, 21 Nov (XINHUA)--Agricultural and sideline production in mountainous counties of China has increased markedly since 1979 when the production responsibility system began to be implemented, according to the State Statistical Bureau.

A survey of 857 mountainous counties in which 27.5 percent of China's agricultural population lives, shows that grain output in these counties was 82.25 million tons in 1982, ten percent more than in 1978.

Cotton output was 108,500 tons in 1982, up 29.4 percent compared with 1978; oil-bearing crops, over 2.7 million tons, double the 1978 figure and sugar-bearing crops, 7.29 million tons, up 92.7 percent and the number of pigs slaughtered came to 51.7 million, up 25.4 percent.

The survey says that the total output value of agriculture in these counties at the end of 1982 was 59.66 billion yuan, accounting for 22.8 percent of the national agricultural total.

The mountainous counties surveyed do not include those in Tibet and they account for 37.2 percent of the 2,306 counties in the whole country. With a combined population of 229.43 million, they cover 23.7 percent of the tilled farmland in the country.

A sample survey showed that average per capita income in these mountainous counties in 1982 was 233.8 yuan, 115.5 yuan more than in 1978, an increase of 97.7 percent.

The survey also indicated a marked improvement in the living standards. Between 1978 and 1982, annual grain consumption per capita increased from 231 kilograms to 246 kilograms, edible oil, from 1.85 kilograms to 3.15 kilograms, and meat, from 6.15 kilograms to 10.1 kilograms.

There was also an increase in material possessions. In 1982, there were 4.6 bicycles per hundred people, five sewing machines, 5.7 radio sets and 9.5 wrist watches, all showing an increase of at least 50 percent over 1978. But the general production level in mountainous areas is still very low, the survey says. The agricultural output value per capita in 1982 was 96.2 yuan less than in plain areas and per capita income was 58.4 yuan less.

ASIAN CROP SYSTEM WORK GROUP MEETS IN HANGZHOU

OW251415 Beijing XINHUA in English 1359 GMT 25 Oct 83

[Text] Hangzhou, 25 Oct (XINHUA)--The 14th meeting of the Asian Cropping System Work Group opened here today.

Representatives from ten Asian countries, namely China, the Philippines, Nepal, Sri Lanka, Thailand, Indonesia, Bangladesh, Burma, India and Malaysia, attended the meeting.

The meeting is sponsored by the International Rice Research Institute.

At today's meeting, a representative from China briefed the participants on the cropping system in China. He said that the northern limit of China's double cropping rice has been expanded from the 28 degrees north latitude to 32 degrees and the rice-wheat cropping system is now practised almost throughout north China. The multiple crop index has been raised to 280 percent (including green manure). This has given 40 percent more grain than in the past, he said.

Guo Yixian from China told the delegates that there are four rice coordination areas in China which concentrate their efforts on solving problems in rice cultivation.

Representatives from other countries also dwelled on their experience in raising multiple crop index.

The participants will visit (some) farms and research institutions in Zhejiang before leaving for Beijing on 27 October to continue their meeting.

The meeting is scheduled to close on October 29.

CSO: 4020/39

## BRIEFS

**PEASANTS IN SIXTH NPC**--There were some gratifying changes in the composition of peasant representation in the Sixth NPC. First, there was an increase in the proportion of agricultural scientific and technological personnel. They constituted 7.45 percent of the entire peasant representation, an increase of 4.68 percent as compared to the representatives of the last NPC. Second, there was an increase in the proportion of representatives of minority nationalities. They constituted 30.37 percent of the entire peasant representation, an increase of 7.07 percent as compared to the representatives of the last NPC. Third, the cultural level of peasant representatives was generally elevated when compared with representatives of the last NPC. Among this year's representatives, 4.58 percent had the cultural level of university education, and 58.7 percent had the cultural level of secondary school education. Fourth, the various types of peasant "self-taught experts" and specialized households, appearing in recent years, constituted a definite proportion in the representation. For example, Hubei Province's grain specialized household Yang Xiaoyun (2799 1420 6663), Zhejiang Province's milk-cow rearing specialized household Ye Rongxin (0673 2837 2450), Anhui Province's agricultural machinery specialized household Qu Guangying (2575 0342 2503), Jilin Province's peasant self-taught expert and "ginseng king" Lan Guili (5696 6311 4389), and Ningxia Hui Autonomous Region's peasant and duck-rearing authority Lu Shuying (0712 3219 5391) had all been gloriously elected as representatives of the Sixth NPC. [Text] [Beijing ZHONGGUO NONGMIN BAO 9 Jun 83 p 1] 12397

**NEW LIVESTOCK BREEDS**--Beijing, 16 Nov (XINHUA)--China has developed more than 50 fine breeds and strains of livestock and poultry since 1979, the Bureau of Animal Husbandry said today. Research in animal husbandry has been strengthened by the development of rural commodity production and household-based livestock and poultry raising, the bureau added. China-bred cattle now make up the bulk of the country's 810,000 dairy cows. There are 37.8 million fine wool, semi-fine wool and improved sheep, accounting for 35.5 percent of the country's flocks. Output of fine and semi-fine wool has reached 130,000 tons a year, two-thirds of the national total. There are also 1,130 state-run livestock and poultry breeding farms in China, with 720,000 fine domestic and foreign animals and 450,000 chickens, ducks and rabbits. The farms produce more than 330,000 head of fine breed livestock a year. [Text] [Beijing XINHUA in English 0856 GMT 16 Nov 83 OW]



LOESS HIGHLANDS SURVEY--Beijing, 21 Nov (XINHUA)--China will compile and publish the results of surveys and research on its northwestern Loess Highlands, according to the Chinese Academy of Sciences here. According to a work conference held in Chengde, Hebei Province last week, compilation should be completed next year. Publication is expected by the end of 1985. This work is aimed at controlling serious soil erosion and creating programs for the economic development of China's northwest, the conference committee said. The Loess Highlands cover more than 500,000 square kilometers in Shanxi, Shaanxi, Gninghai, Hebei and Qansu Provinces. The area has a population of about 60 million. Problems to be overcome include serious soil erosion due to unreasonable land utilization. The erosion now affects more than half of the arid and semi-arid northwest. [Excerpts] [Beijing XINHUA in English 0727 GMT 21 Nov 83 OW]

CSO: 4020/39

## BRIEFS

**ANHUI BUMPER CROPS**--This year, Anhui Province's summer grain and oil-bearing crops will again provide a bumper harvest. According to forecasts, wheat production will exceed 12 billion catties, 4.2 percent more than last year's production. Rapeseed production may reach 1.654 billion catties, exceeding the state's assigned plan by 18.1 percent. In order to buy wheat and rapeseed in proper time, Anhui Province's grain departments of different levels have vacated storehouses for 4.5 billion catties and established 3,035 grain stations. During summer harvest, these departments will open 11,000 weight stations and train 7,000 purchasing personnel. According to regulations of Suxian Prefecture, a focal point wheat production region, grain departments must go to grain specialized households for purchases. [Text] [Beijing ZHONGGUO NONGMIN BAO 8 Jun 83 p 2] 12397

CSO: 4007/190

BEIJING

BRIEFS

BEIJING GRAIN HARVEST--Beijing, 16 Nov (XINHUA)--Peasants on Beijing's rural outskirts have reaped a record harvest this year, according to the Municipal Statistical Bureau. A survey announced today said Beijing's 1983 grain output is now estimated at 1,960,000 tons--5.7 percent more than last year and 5.4 percent above the previous record, set in 1980. The municipality has harvested an estimated 1,270,000 tons of grain this fall, in addition to the 690,000 tons of wheat produced last summer, the survey added. The annual average yield is estimated at 6 tons per hectare. The survey was carried out on 40,000 sample plots selected at random from 12,000 hectares of land, according to the bureau. Beijing's rural outskirts include nine counties and six districts. [Text] [0W210621 Beijing XINHUA in English 0701 GMT 16 Nov 83]

CSO: 4020/39

## DEVELOPMENT OF METROPOLITAN, SUBURBAN AGRICULTURE DISCUSSED

Guangzhou GUANGZHOU RIBAO in Chinese 4 Aug 83 p 4

[Text of speech by Lu Wen [5684 2429] To the Conference on the Economic Structure and Development Strategies of National Metropolitan Rural Areas--Date and Place Not Given--Slightly Abridged by This Newspaper]

[Text] In the matter of the development direction of metropolitan, suburban rural areas, some cities proposed: "Serve the cities and make the rural areas prosper." Although this proposition has had an important effect, I do not think it is good enough. The key to this proposition is emphasizing that rural areas obey the cities. However, it is still unclear as to how to develop agriculture and rural areas, how agriculture can better satisfy society's needs, and what kind of prosperous rural areas should be built. If agriculture is not managed well, it will not be able to provide the cities with necessary services. In my point of view, the cities, besides considering their own needs, should also take the needs of suburban areas and the broad rural areas into consideration. They cannot just demand that rural areas serve them, they should also support the development of the rural areas. Concerning the proposition for the direction of development of metropolitan, suburban rural areas, would it be proper to put it this way: "Develop socialist, modernized agriculture which suits the cities' needs and is advantageous to the development of the cities and villages." Included in this is how to satisfy the needs of both the cities' and the villages and the road and direction for the construction of agriculture. When expanded to the entire suburban rural area economy, the proposition would be better put this way: "overall planning, integration of the cities with the villages, coordination of industry and agriculture, diversification of economy, and comprehensive development."

The metropolitan suburban areas in our nation, besides their natural economic relations, also function as administrative divisions. To develop the metropolitan suburban economy, we cannot mechanically copy the examples of foreign countries, we should, in accordance with the demand for economic development, accurately guide the economic development of cities and villages. This is also the realization of the function of planned economy. On deciding the direction for metropolitan and suburban agricultural production, consideration should be put on the strategies for the development of metropolitan suburban rural areas.

## Strategic Problems Concerning the Development of Metropolitan Suburban Rural Areas

When considering the economic development of metropolitan suburban rural areas, stress cannot be simply put on the relationship between a city and its outskirts, but should be put on the entire nation. Consider comprehensively the entire relationship of the cities and villages and their direction of development. Ever since capitalist society came into existence, it has always been the cities which have been leading the villages. The relationship between the cities and the villages in our country is no exception at the present time or in the future. The influences of the cities appeared first in suburban areas and then spread to the broad rural areas. The metropolitan suburban areas not only have to confront the cities, satisfy their needs, and to consider their own development, but also have to play a leading role for the broad rural areas. It is not enough for the suburban areas to care only about serving the cities, nor is it right for the cities to merely demand the suburban areas' service and pay no attention to their leading function for the rural areas.

A metropolitan city is, without doubt, the center of politics, economy and culture, therefore its suburban area should provide it with necessary services and make some contribution to it. This is a very significant function of our nation's decision to expand the range of suburban areas. However, not only the suburban areas have to serve the cities; with the present development in agriculture in the rural areas, the cities' service to agriculture and rural areas is also urgently needed.

How are the rural areas developing now? 1) A multiform contract responsibility system of linking remuneration to output has come to a main position in rural areas. Units which adopt contracts linking remuneration to output make up over 95 percent of all production brigades, of which more than 80 percent are large-scale contractors and individual household production contractors. The adoption of the contract responsibility system has also been more commonly developed in the cities. With the development of specialized and socialized production, there will also be a tendency for the appearance of another kind of integration, namely the practice of integration on the basis of specialization and establishment of various forms of new economic integration. This kind of integration has appeared in many places. In some places the total number of integrated households has reached 23 percent of all households. The two trends are both in effect now, and might result in a change from the unitary collective economy of the past to a multiform cooperative economy. In one word, cooperative economy will be commonly developed. On the matter of guiding the peasants to the new integration, administrative orders cannot be used. We should create necessary material conditions, and through economic inducements, guide the peasants to join voluntarily. The creation of these kinds of material conditions will depend mostly on cities and industry. 2) Commodity production in rural areas is developing day by day. Commodity circulation in the rural areas is also increasing gradually. Currently the commodities sold by the peasants themselves have made up about 40 percent of the rural areas' total commodity sales. Therefore, the agricultural trading markets has gotten more and more

important. The development of suburban areas is faster than that of ordinary rural areas, which also means new demand by the cities. 3) The gradual development of rural areas into modernization and mechanization. The quantities of agricultural machinery, good varieties, chemical fertilizer, pesticide and plastic film bought by the peasants have gotten larger and larger. In the past, people were afraid that the practice of the contract responsibility system of linking remuneration to output would affect the modernization and mechanization of agriculture. However, practice proves the contrary, it promotes the process. How industry adjusts to this situation has become an important issue.

The development and change of rural areas in these aspects have put widening demands on the cities. By and large, rural areas need support from the cities in the following aspects: 1) In provision of modernized production material; 2) In the processing and storing of agricultural products; 3) In developing businesses of communication and transportation; 4) In raising scientific, technical and educational levels; 5) In furnishing information and other services; 6) In creating employment conditions for the labor force to transfer from plantation to other jobs; 7) In enriching the spiritual life of rural areas; 8) In training leading cadres for rural areas; and 9) In providing rural areas with construction material (reinforcing bars, cement and glass, etc.) and articles for daily use, and so on and so forth.

Viewed from the angle of the services that can be provided to the cities, the cities should also support the suburban rural areas in managing agricultural production well. Siqiling Commune, Beijing, plays an important role in providing the city with supplementary foodstuffs. A very important reason for this is that it has a lot of advanced equipment and production techniques, plus a group of educated and skilled leading cadres. In order to serve the cities, suburban agriculture has to be transformed from its semi-self-sufficient state to commodity production, from traditional agriculture to modernized agriculture. It cannot manage without the vigorous support of the cities.

That the rural areas have to prosper is without any doubt. In order to guarantee the masses' long-term, prosperous and solid material basis, and not just good living conditions, the rural areas' socialistic and modernized construction should be done well. For this reason, the cities should not only produce daily consumer goods for the rural areas, but also provide them with production material and guide the peasants in the spending of their income on production. Therefore, the rural areas in metropolitan suburban areas must develop diversified economic production. Besides developing industrial crops and aquaculture, they should also develop industry, business, transportation, service, etc., so as to attain a comprehensive development of agriculture, forestry, animal husbandry, sideline production and fishery as well as agriculture, industry, business and transportation.

#### Questions Concerning Agricultural Production's Orientation in the Metropolitan Suburban Areas

Some comrades mentioned orienting production in accordance with each city's characteristics and conditions. This is a correct opinion. It is our

principle to set out from practicality. Each city has its own characteristics, demands and conditions, therefore the production policies should not all be the same, but rather should have some difference.

However, there is also some common ground on this question which requires attention: 1) metropolitan suburban areas should place the production of fresh and living products (such as vegetables, milk, eggs, fish, etc.) in first place, because it is hard to keep these products fresh while transporting them, and their quantity is also limited; 2) stress should be placed on grain production and exchange; grains needed for developing industrial crop and supplementary foodstuffs in the suburban areas can be obtained through production exchange with economic areas and coordinated areas. People should not expect the state to send them more grain; 3) Metropolitan suburban areas should practice a diversified economy and comprehensive development so as to fully deploy the labor force, utilize resources rationally and enable the rural areas to become prosperous as soon as possible. These are the only ways through which the production of grain and fresh and live supplementary foodstuffs can be promoted.

#### Questions Concerning Cities Leading Counties

The policy of cities leading counties is generally correct. However, in the reform from the prefectural party committee leading counties to cities leading counties, also needed are some conditions and corresponding transformations, such as: 1) certain number of cadres who are capable enough to play a role in leading various counties; 2) fitness among various organizations. There are some differences between county and city organizations, a sudden change might result in some maladjustments among them; 3) keeping economic channels open; 4) overall, unified planning. Do a good job on the distribution between cities and villages, and between counties, so that each unit will benefit from it and not become a burden.

The basic question about cities managing counties is not administrative division, but economic relationships: First, they should be divided in accordance with both traditional and practical economic trends--administrative divisions should be a reflection of economic relationships. Second, contacts between cities and counties should be established on the basis of mutual respect, equality and mutual benefit. There should not be any improper demands, compulsory execution, or egalitarian transference gratis, nor should there be equalitarianism.

12369

CSO: 4007/231



## SELF-MANAGED SPECIALIZED HOUSEHOLDS

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] In Chinese No 9, 1983 pp 21-25

[Article by Tang Shengqi [0781 4141 2603] of the Ningming County Commission Guangxi Zhuang Autonomous Region: "Questions on Self-managed Specialized Households"]

[Text] The self-managed specialized household cropped up as a new form of economy after the 3d Plenary Session of the 11th CPC Central Committee. Breaking through the categories of natural economy and seminatural economy, it has become the forerunner of rural socialist commodity economy production. Its significance in city and rural economic life is becoming more and more noteworthy. Moreover, self-managed specialized households represent an important form of economy in the course of transformation from a seminatural economy based on traditional technology to a socialist commodity economy. This article attempts to explore certain questions confronting self-managed specialized households, an important theoretical topic in our economic circles.

#### 1. The Self-managed Specialized Household Is a Form of Socialist Economy

Judging from the way of formation and its actual form, we recognize three kinds of agricultural (in the broad sense) specialized households: 1. Those specialized households which are managed independently but are under the unified accounting and labor exchange of the collective economy and are component parts of the collective economy. They are the contracted responsibility households belonging to the collective economy. 2. Those which are developed, or are developing from commune member sideline occupations. These households are not directly connected with the collective contracted responsibility system. Yet they may have been granted some idle land or feed-grain land by the collective or they may be performing the mission of state purchasing for the collective. These are completely independent economic entities. 3. Those specialized households organized by retirees, city and town residents, or people waiting to be employed. They are completely independent of the collective land contract system and rely solely on commodity exchange to relate with other economic organizations.

The first kind of specialized household is a form of production within the socialist collective economy responsibility and is undoubtedly socialist in nature. The nature of the second and third types deserves some study; the subject of this article is the independently managed specialized households, the so called self managed specialized households

We are concerned with the nature of the self-managed specialized households because the policy decision of whether to curtail the development or to support and guide the development is determined on the basis of their nature. The self-managed specialized household is a form of socialist economy which has emerged during our agricultural modernization process. It is a result of socialized specialization and division of labor. Being an independently managed unit, the household does not have the exploitative relationship between capitalist employer and employees. Just as the capitalist farm is tied with its capitalist activities, our self-managed specialized household is tied with our socialist ownership by the whole people collective economy. It is a concrete form of socialist specialization and division of labor. Its relation with the socialist economy is manifested in three ways:

1. A contract between the self-managed specialized household and a state economic unit in foreign trade, commerce or animal husbandry. The latter provides the raw materials (seeds, young animals or fowls, fertilizer, feed etc.) and purchases the product. The raw materials may also be supplied by a state managerial unit and the products bought by the original supplier unit.
2. A contract between a self-managed specialized household and a state-owned farm or pasture or a specialized company for raising animals or poultry or waterfowls.
3. On the basis of independent management, voluntary participation and mutual benefit, the households combine to form comprehensive or single-item production combinations, or supply and marketing combinations. Independent management and accounting are maintained within the collective combination economy.

Aside from those households mentioned in the above, there are a few self-originated and completely independent self-managed specialized households which are connected solely with the market economy. These are households newly transformed from family sideline occupations, and are bound to rely on the socialist economy for their production and circulation procedures once they progress further to become more like one of the conditions mentioned above.

The governing socialist production relationship at the present socialist stage of our country exerts decisive power over the development direction of the self-managed specialized households. The latter depends on and is subordinate to the former. Through commodity production and exchange the households are connected with our socialist collective economy owned by the whole people and become an organic part of the socialist economy.

At the fifth session of the fifth NPC, Premier Zhao Ziyang reported on the fifth 5-Year Plan in which he said, "With the predominance of the socialist state economy, through economic ties and cooperation we will continue to strengthen guidance over the peasants' main economic activities and bring them more effectively within the orbit of state planning and make them an organic part of the socialist economy" (REUTERS (HONGKONG), 1982, p. 24). This is a penetrating explanation of the nature of self-managed specialized households together with the direction governing their development.

II. The self-managed Specialized Household Is One of the Concrete Forms of Agricultural Transformation from Seminal Economy to a Socialized Commodity Economy Which Has Been a Long Existing Form of Economy in Our Socialist Agriculture

The agricultural modernization process is a process of transformation from the "small and complete" seminal economy to a socialized commodity economy. For more than 30 years, the socialization progress of our agriculture has been very slow. Up till 1980, the agricultural commodity rate did not exceed 40 percent. Our rural areas are still in a state of seminal economy. After the 4d Plenary Session of the 11th CPC Central Committee, the wide-spread agricultural responsibility systems in agriculture, particularly the "double guarantee" responsibilities system with payment linked to output has offered a concrete form for tying in rural production activities with the current production force. The socialized commodity production economy form--the self-managed specialized household emerged as the time required, tying in directly with the socialist economy owned by the whole people while gradually breaking away from the land contract and the old collective ownership economy. On a socialized production base, a household may join any kind of economic combination to form a new combined economic entity depending on the developmental needs of the production force. Under the coordination and guidance of the socialist economy owned by the whole people, the new combined economy allows the self-managed household to be responsible for its own profit or losses while simultaneously directing the distributed socialized production according to planning and to socialized needs, thus becoming an organic part of the socialist economy. Furthermore, the labor initiative in expanding reproduction is mobilized to the largest extent, the conflicts between the agricultural socialized requirement and the requirement for distributed management are better resolved. Commodity production now has a more effective form thus accelerating the process for agricultural socialization and commodity production. A new aspect in agricultural socialization has come in effect as our agriculture is being transformed from a seminal economy to a socialized commodity economy.

As an organic part of socialist economy, the self-managed specialized household will develop on a large scale in the process of our agricultural modernization. It will continue to exist even after the realization of our agricultural modernization, as being predicated on grounds of the characteristics of our agriculture and agricultural resources.

(iii) It is a unified yet complicated process of the unifying of the operations of nature and the goal-oriented activities of people. Within the entire field of agricultural production and under different production environments, modernized large-scale management is not necessarily always the most effective form of management. Scientific development and progress in agricultural organic structure together created conditions for using individuals' manpower to participate in large-scale production ("large" is relative to production volume in the past) for the dispersed management. The agricultural modernization in the capitalist world has evolved for more than 100 years. It is because of the special characteristics of agriculture that individual family farms have obstinately survived the fierce competition in capitalism.

Agricultural socialism has changed the social attribute of agricultural production--private ownership and the capitalism possessive attribute--it cannot change the dispersed nature of agricultural production. The dispersed nature of agricultural production policymaking and management is an important factor for determining the form of agricultural management in our socialist modernization of agriculture and in our modern agriculture. Socialist modernized agriculture is not necessarily large-scale centralized collection agriculture. We shall discuss later why this is particularly so under the conditions of our agricultural resources. Under the coordination of socialist economy and the direction of state planning, the independent production policymaking and the vigorous dispersed management of the self-managed specialized household can be fully developed to become an effective form of agricultural management combining the objective needs of agricultural socialization and the dispersed policymaking of agricultural allocation. It will not disappear before its potential and positive effect in productivity is fully realized. This is the objective base for the self-managed specialized households which will exist in large numbers during our agricultural modernization process or even after the realization of agricultural modernization.

#### III. Actively Developing the Self-managed Specialized Household as an Important Strategic Measure for Carrying Out Agricultural Modernization

During the process of agricultural modernization, along with the raising of agricultural productivity, the agricultural labor force has to be liberated from farming endeavors. There are only two ways to solve the surplus agricultural labor force problem: One is to develop commune and brigade enterprises to realize agricultural industrialization, the other is to actively develop self-managed specialized households, thus marching into intensive and extensive agricultural development without using state investment or extra arable land for absorbing a large amount of labor force.

The self-managed specialized household is a small-scale socialized economy. Not only is it suitable for modern large-scale agricultural management such as pig farms, poultry farms and dairy farms, it is equally suited for certain production undertakings where the tentacles of modern

larger-scale agricultural management cannot run : the cultivation of paddy, quail, swine, turtle, goldfish, worms, silkworm, rabbit and deer and the cultivation of edible fungus, truffles, mushrooms, black and red coral medicines. These undertakings, apart from the basic material need for the population, also enrich the increasingly numerous spiritual and cultural life of the people and satisfy international market needs. The future is limitless. These various self-managed specialized households require very little arable land. Toward the end of this century and the beginning of next century, if all the rural commune and brigade industrial enterprises can reach the level of the two currently collectivized semi-aridland regions, about 50 percent of the agricultural labor force can be absorbed. The development of well-managed specialized households will enable 20-25 percent of the agricultural labor force to leave the land. Counting in an additional 5 percent of the labor force which can be absorbed by various rural service trades, the leftover 20 percent or so labor surplus of approximately 4,000-7,000 peasants can each take 20 mu or so of arable land. They will be in a position to practice specialization, collectivization and forming various small specialized farms or large and medium combined farms. The rural areas in China will have a modern agriculture composed of various forms of combined yet basically small agricultural units.

From the above we can conclude that the full development of the small collectivized self-managed specialized households which are under the direction of socialist economy and planned economy is not only an important path for solving our rural surplus labor force problem, it is an important link for developing a modernized, characteristically Chinese agriculture as well. It is an important strategic measure in the agricultural modernization process of our country.

#### IV. The Self-managed Specialized Households Are the "Three Troops" for Transforming Agriculture from the Traditional Technology to a Modernized Technology

Production equipment is a basic factor for agricultural productivity. It is the material foundation of a modernized agriculture. In addition to technological transformation, and to rebuild backward traditional agriculture into advanced agriculture based on modern technology, the socialist state, on the one hand, must provide the material base for agricultural modernization by establishing an industrial center for producing farming machinery. On the other hand, we should raise agricultural self-accumulation and organic composition. In the past, the formation of fixed assets in our agriculture has been slow largely because of the poor foundation, the low production rate of agricultural labor and the low accumulation ability. One reason being the low share of agricultural products, but more importantly, because of the reliance of agricultural production on state support. Our input (not of land) is far less than on self-accumulation. Besides the comprehensive of private "household" in means of production, even small family units are collectivized, and the exclusion of any possibility for accumulation, the only type of agricultural production with fixed land is gone and the self-accumulation is inconceivable that we can achieve an agricultural technology from traditional to modernized technology.



To speed up agricultural self-accumulation, we must break through the restriction of treating collective accumulation as the only form of agricultural accumulation and practice the "raise the collective and individual at the same time" policy. Not only will the three-level ownership collective economy continue to perform the function of accumulation and expand collective fixed assets (including fixed assets of collective enterprises), but we must fully develop the accumulation function of various contracted responsibility households, self-managed specialized households and other new style combined economic entities. With double contracted responsibility of the household, the contracted household can implement part of the accumulation functions, buying small farming machines, expanding production investment (including investment in fertilizer), or even buying medium-size farming equipment. Going one step further, the self-managed specialized household can break through the old accumulation form in which all production means belong to the collective and spur high-speed agricultural accumulation.

Self-managed specialized household in achieving accumulation and technological modernization, as compared with accumulation in collectives and in general contracted households, are superior in the following aspects: 1. The self-managed specialized household is a representation of the excellence in our traditional technology. It is also the forerunner of any new technology. On the base of a fully developed traditional technology, it can incorporate modern technology and speed up the technological transformation. 2. Advanced technology and expanded investment are the bases for self-managed specialized households which have the interest and the impetus for expanding reproduction investment. 3. They can determine investment direction, selecting new technology and purchasing new equipment according to the actual production needs in development, thus preventing much of the showy yet wasteful investment with little economic results of the old collectives. Theirs have become the most economic results-oriented form of accumulation. 4. Because of the relatively high production rate, meager consumption and low cost, under the law of commodity exchange and the law of value, the specialized households have higher above-quota income (or above-quota profit) than most general households, thus having the ability to undertake relatively fast accumulation and to expand their fixed assets. In the past, a production brigade of more than 100 households would request state loans to buy miscellaneous farming tools or even to buy some string or 1 or 2 tons of chemical fertilizer. Now, a specialized household may allocate several hundreds, thousands or even tens of thousands of yuan as accumulation for reproduction. Under state guidance and support and through self-accumulation, the self-managed specialized households can continually raise agricultural organic composition, expanding the scale of production and reducing dependency on land. They will make a great contribution to the agricultural transformation from traditional to modernized technology.

Along with the development of the self-managed specialized households production, accumulation is speeded up and the scale of production is becoming bigger. Soon there will appear on the scene a group of medium-scale or relatively large-scale self-managed specialized households with



modern technology, the modern poultry farm run by Cao Yingxiang of Anhui Province Xianling County being one example. The self-managed specialized household is developing inevitably from possessing simple production equipment (such as cow shed, poultry house) to holding large sets of modernized equipment; or from owning wheelbarrows to having modern transportation equipment, such as motor vehicles and tractors.

A new problem arises: Should there be a limitation put on the volume and size of the means of production a self-managed specialized household may possess? People are concerned that a self-managed specialized household might develop into a capitalist entity if it owns large-scale means of production. As a matter of fact, in many regions, there have been restrictions put on self-managed specialized households forbidding them to buy medium-sized tractors or motor vehicles. There have even been cases of confiscation of motor vehicles and tractors. We should clarify this problem, approaching it from a theoretical point of view.

As we have stated, the self-managed specialized household under socialist system is socialist in nature and is an organic part of the socialist economy. Under the condition of the predominantly socialist all-people ownership economy, and without the presence of a labor market, regardless of the quality and amount of the means of production a household has, they are merely means for saving the household's labor and reducing its independence from land, and cannot become capitals used for creating surplus value by exploiting others. Consequently, there shouldn't be any restrictions put on the quality and quantity of the means of production a household may possess. In fact, it is impossible to give a reasonable boundary line for the quality and quantity allowed. Not only may the self-managed specialized household be of primary or medium grade production scales, but they should be allowed to possess whole sets of modernized equipment, for example, modernized equipment for pig farming, poultry farming and brooding and modern transportation equipment.

Would it be difficult to keep the self-managed specialized household as an economy owned by the whole people once the means of production become too large? Such worries are unfounded. Quite on the contrary, being nonexploitative, a self-managed specialized household will raise its socialized productivity level with the increase in size of the production equipment and in degree of modernization, thus further promoting the development of more advanced forms of combined economy, and enhancing its process of merging into the modernized system of ownership by the whole people.

#### V. Strengthening the Planned Guidance of the Self-managed Specialized Household as a Guarantee for Healthy Development

Socialist economy carries out the principle of conducting national economic development in a planned manner. In various ways, the major economic activities of self-managed specialized households are being set in the regular orbit of planned economy. This is not to say that all production

of the self-managed specialized households are listed in state planning, or that all products are included within the scope of state directive planning. Rather, the state must exert planning and guidance, regulating proportion and balance of the specialized households among production, supply and marketing in the agriculture and within the entire national economy. From the viewpoint of the balance between the national economy and internal agricultural plans, a self-managed specialized household has its root in the planting-type of agriculture which supplies the needed grains, feeds and the labor force. The level of a planting-type agriculture development restricts the scale of development of the self-managed specialized household. For instance, while we are developing the self-managed specialized household for animal husbandry or poultry farming, we should know their effects on grain production (competition for arable land) and grain consumption (competition with human consumption). The state must make a unified plan determining the number and scale of the specialized households which can be developed. The material conditions on which the self-managed specialized household depends for production development should be included in state planning to guarantee proper supply of resources, particularly energy and transportation. Guidance and planning should be given concerning the balance among production, supply and marketing. Through the use of economic contracts, the state enterprises in commerce, foreign trade, transportation, farm (animal husbandry) or combined enterprises of agriculture, industry and commerce can absorb the self-managed specialized household into their scope of economic activities. The state should encourage and support the conjoining of self-managed specialized households to form new economic combination entities for the convenience of enforcing planning and guidance. The state should also organize and support the organic coordination among new economically combined entities and specialized households through economic contracts. Using economic levers such as pricing, tax, credit, investment, material supply and through various channels of economic information dissemination, specialized households will be brought into the tracks of state planning. It is under the principle of unified planning and state guidance that the self-managed specialized households can ensure healthy development.

#### VI. Environment Protection and Ecological Balance Must Be Attended to While Developing Self-managed Specialized Households Whose Development Will Eventually Penetrate Into Every Corner of Our City and Rural Areas and Into Every Production Territory

If not carefully regulated, grave environmental and ecological consequences would incur.

First of all, we must protect the traditional organic coordination between planting and nonplanting enterprises. With the development of self-managed specialized households, poultry farming will be separated from planting enterprises. If managed improperly, environmental pollution could result as shown by many precedents in Japan. Environment pollution is more likely to occur in the urban and suburban areas where there is a high concentration of breeding undertakings and relatively little planting

undertakings. We should strive to combine breeding enterprises with planting enterprises or to take measures to process and turn the animal wastes and leftover bits and pieces into organic fertilizer commodities. This is a lesson we have learned from the negative experience of capitalist agricultural development.

Next, we must, from the start, pay full attention to the relationship between self-managed specialized household development and the balance in ecology. We could advocate that a few able households make their best effort to establish small ecology systems, for example, the mulberry-farm-sericulture-fishery-mulberry farm system in the Shunde County in Guangdong Province. But more importantly, we must develop specialized households in the light of their effects on overall ecological balance to better coordinate their relationship with environment and ecology. Specialized households which contribute to better ecological balance, such as forestry and horticulture, are encouraged, while those which are detrimental to ecology balance--hunting, gathering, digging and fishing, felling of trees against forest laws and against the regulations for water and soil conservation--are to be restricted or forbidden. Leadership departments on all levels must give timely counsel to those households which labor against ecological balance, rather than passively watching the harmful activities.

12453

CSO: 4007/267

# LONG-TERM LAND-USE CONTRACT CERTIFICATES ISSUED

Beijing: RENMIN RIBAO In Chinese 25 Aug 83 p 2

[Text] According to a report in HEBEI RIBAO, Hebei Province's Da Ming County started to issue long-term land-use contract certificates to the peasants last month. The term for general land contracts is from 15 to 20 years. So far there are more than 2,500 peasant households from 1 commune and 13 brigades who have joyously received their land-use certificates.

Daming County was one of the earliest counties in Hebei Province which started the practice of contract responsibility system linking remuneration to output. In the autumn of 1980, the majority of communes and brigades in the entire county signed contracts with their members which will be due in the coming autumn. Although the contracts signed in the first few years did have a great impact, because of the short contract terms which ranged 3-5 years, the peasants, either waiting for changes or afraid of changes, feared to invest boldly to make basic improvements in the land and instead of thinking for the future, for the long-term target, they just thought for the very season, the very year, and thought very little of measures for a diversified economy such as planting trees, and as a result, the exploitation of the soil's potential was affected.

To solve these problems, the county committee and county government, after repeated studies and wide-ranging consultation with the peasants, decided in the end to extend the land contract term to 15-20 years, to issue land-use contract certificates and to do various kinds of good preparatory work before starting to issue certificates. For examples, resolving the conflict between increase and decrease in population, and long-term usage of land well; solving the problem of overly fragmented land; and making rules for transferring land and compensation for investments.

The land-use certificates will be issued by the county government. On the certificates will be stated the contract term, the quantity of land in mu and the location of land, piece by piece, and then signed by the householder, production team and production brigade respectively. Examine and accept certificates strictly while issuing them. Approve and issue them team by team.

12369

CSO: 4007/229

## MEASURES ADOPTED TO STRENGTHEN LAND MANAGEMENT

Beijing RENMIN RIBAO In Chinese 30 Jul 83 p 2

[Text] In Heilongjiang, a province with an abundance of space and few people, a series of vigorous measures to protect land resources adopted to counter the unhealthy trend of indiscriminately occupying cultivated land have had great results.

Heilongjiang Province, with its vast expanse of fertile land, is the province with most cultivated area in the entire country. With the development of construction and increases in population, plus indiscriminately wasting, occupying and damaging land, the cultivated area per person of the entire province has decreased from 8.4 mu during the early period of the nation's establishment to 4.1 mu. Ever since the 3rd Plenary Session of the 11th CPC Central Committee, the Heilongjiang CPC Provincial Committee and Provincial People's Government, in accordance with the concerned directives of the party Central Committee and the State Council, as well as the state land laws, have conscientiously strengthened land management work.

By now, the indiscriminate occupation of cultivated land and waste of land within the entire province has started to be reversed, and the quantity of land in suburban areas procured for basic construction is decreasing year after year. In 1982, the total quantity of land procured, on approval, in the entire province decreased from 380,000 mu in 1978 to 200,000 mu, a decrease of over 50 percent from 1981; the proportion of procured cultivated land makes up 86 percent of the total procured land in 1980, 80 percent in 1981 and 66 percent in 1982. The quantity of cultivated land used for constructing houses in the villages also decreased greatly. According to the statistics of 47 cities and counties, of the more than 69,000 peasant households which are constructing houses, more than 50,000 households placed their houses in available land in the villages, thereby saving more than 41,000 mu of cultivated land.

The basic experiences which Heilongjiang Province has gained from strengthening land management are:

Integration of legislation with education. In various forms, people propagate the significant meaning of "cherish every single drop of land, and utilize rationally every single piece of land" to workers in the cities and villages. In many places where there is less interconnected cultivated land, more population and less average cultivated land (smaller) by per person than before, strengthen the cadres' and the masses' concern toward protection and conservation of cultivated land by use of accounting. At the same time, pass laws concerning rational utilization of land, and make them bases and criteria for land management. "Heilongjiang Province's Provisional Regulations for Land Management" which were discussed and approved by Heilongjiang Province's MPC Standing Committee in September, 1981, is the entire nation's most complete set of (local) land laws since the establishment of the nation.

Combination of stopgap measures with radical measures. The 10 years of internal disorder put the land management of Heilongjiang Province into a state of anarchy, cases of disputes over land occurred frequently. At the same time as handling boldly and resolutely all sorts of land disputes, Heilongjiang Province's land management authorities, through decisions made by the provincial people's government, launched the registration of land to delimit boundaries in the entire province. After the delimitation of boundaries, certificates will be issued by provincial and city governments, thereby combining stopgap measures with radical measures. After a few years, most land disputes will be properly resolved.

Integration of centralized management with separate management. Practice the method of centralized land management by people's governments along the county (city) level and their land management organizations according to administrative jurisdiction and attain the centralized solution of conflicts over land use among various national economic departments; while at the same time, bringing into full play the responsible departments of various systems and land using units' enthusiasm in land management. Departments of agricultural reclamation, animal husbandry, forestry, water conservation, aquaculture, railroad, industry and mining and transportation, etc., also all set up corresponding land management organizations to take care of the land management work within their own systems.

Integration of administrative management with scientific management. On the basis of confirming land ownership and the right to use land, the entire province has in many places started land resources surveys, surveys of current land utilization and soil surveys; many cities and counties are setting up experimental stations for agricultural districts. Comprehensive land planning has been done to set up land files, train some technicians for the management of land and develop studies of land science. They have laid a foundation for the rational utilization of land resources.



## BRIEFS

HEILONGJIANG PROVINCE HARVEST--Harbin, 25 Nov (XINHUA)--State farms in Heilongjiang Province harvested 3.25 million tons of grain and soya beans this year, 40 percent more than in 1982, according to the Provincial State Farms and Land Reclamation Department. These farms sold 1.75 million tons of grain to the state this year, a rise of 50 percent. Their profits came to 300 million yuan (about 150 million U.S. dollars), 2.2 times more than a year ago. The 97 large and medium-sized state farms in this China's northernmost province have 2.1 million hectares of farmland and surveys show 800,000 hectares of wasteland in and around the farms can be reclaimed. The provincial department attributed this year's good harvest to implementation of production responsibility system, which links farm workers' income with output, and improvement of management and farming techniques. [Excerpts] [OW250826 Beijing XINHUA in English 0812 GMT 25 Nov 83]

HEILONGJIANG DAIRY PRODUCTION--Harbin, 21 Nov (XINHUA)--Heilongjiang turned out a record 25,500 tons of dairy products in the first ten months of this year, according to the Provincial Light Industry Bureau. Production of powdered milk reached 23,800 tons, an increase of 51 percent over the same period in 1982. Heilongjiang has more than 3.3 million hectares of pastures. By October, there were 172,000 dairy cows and 442,000 milch goats in stock, 57,000 and 52,000 more than a year ago. The province purchased more than 180,000 tons of fresh milk between January and October this year, 20 percent more than in 1982. The province has built 41 dairies and upgraded 34 more, pushing daily processing capacity up from 300 tons in 1978 to its present 1,500 tons. [Excerpts] [OW211140 Beijing XINHUA in English 1125 GMT 21 Nov 83]

CSO: 4020/39

## COMMODITY FISHERY BASE COUNTIES UNDER CONSTRUCTION

Beijing ZHONGGUO NONGMIN BAO in Chinese 6 Aug 83 p 1

[Text] Up to the present time, 18 counties of Hubei Province have either become, or are under construction and will become, our nation's commodity fishery bases. These counties, since 1978, have constructed an average of 34,000 intensive pisciculture ponds every year. Production of grown fish has increased by 11.15 million jin, supplying the nation with 4 million jin of commodity fish. At the same time, the communes and brigades have had an average increase of 12.5 million yuan in their income every year, providing the nation with 2 million yuan in tax revenue. Currently, cultivated area of commodity fishery bases in the entire nation has already reached 169,000 mu.

In 1977, in order to solve the "difficulty in eating fish" in the cities as well as industrial and mining enterprises, the nation decided to invest in supporting communes and brigades in rural areas in excavating intensive pisciculture ponds and construct commodity fishery base counties. According to regulations, these communes and brigades which are included among the bases will receive a 200 yuan subsidy and 100 yuan production working fund from the state for every mu of fish pond built; production units from the second year on sell small amounts of grown fish to the state. From the fifth year on, they sell a fixed amount of grown fish, according to the surface area of the ponds to each mu and, according to regulations, the state gives them some reward.

Most of the intensive fish ponds dug alongside Hubei Province's rivers and lakes were bottomland fields improperly cultivated in the past by enclosing marshes, thus "returning the field to be a fishery;" some were built using branching streams, waste rivers and waste pits, and so basically did not take up any cultivated land. The average area of newly built fish ponds is about 15 mu. Due to the concentration and linking together of the fish ponds, it is not only very convenient for culturing and management, but also convenient for catching and transportation.

Practice proves that culturing fish in intensive fish ponds results in a high and stable yield as well as great economic benefit. Take Manyang County, for example, where fresh fish production was only

5.5 million jin 1978. However, after 4 years of conscientious work, the entire county has constructed 131 commodity fishery bases, culturing area 21,000 mu. It produced over 7.02 million jin of fish last year which when added to the fish production of other fish ponds, reaching a total production of over 15 million jin, double that of the entire county's fresh fish before constructing the fishery bases. The newly built intensive fish ponds in Honghu, Jiazu, Jiangling counties, etc. all were profitable from the very year they were put into production. Currently, fish production per mu of fish pond ranges from 200-300 jin and more.

In recent years, culturing technique training groups are held everywhere, upon agreement, and have trained more than 8,000 peasant technicians. At the same time, the contract responsibility system is widely popularized in various fishery bases. As a result of these measures, "production increases year after year, income improves year after year and the contribution to the state rises year after year," a new phenomenon.

12369

CSO: 4007/229

NECESSITY OF DEALING WITH NEW PROBLEMS IN GRAIN PROCUREMENT

Beijing JINGJI RIBAO in Chinese 4 Oct 83 p 1

[Interview with Liu Zheng, governor of Hunan Province, at Changsha, date not specified: "The Peasants' Difficulties in Selling Grain Should Be Seen as an Important Matter and Seriously Dealt With--Reporters Interview Hunan Provincial Governor Liu Zheng on the New Situation Following a Bumper Grain Harvest"]

[Text] A reporter's visit with Provincial Governor Comrade Liu Zheng concerning current grain procurement problems after overcoming a natural disaster and attaining a bumper harvest.

Question: The good news of a bumper harvest in Hunan during a disastrous year has inspired the people, but could you explain how current grain procurement is proceeding?

Answer: Most rural villages in our province have been able to attain bumper harvests this year after natural disasters. Basically speaking, this is the result of the superiority of the socialist system, which is something the peasants are deeply aware of. They are very enthusiastically selling patriotic grain to the state after the bumper harvest. By the end of September, some 6.504 billion jin of grain had been purchased in the province, equal to more than 80 percent of the annual purchase plan. At present, late rice is doing well, and if there are no major disasters and management is strengthened, it will be possible to make up for losses of early rice. I anticipate a major breakthrough in grain procurement totals. The problem we are facing now is inadequate storage capacity in the province. I estimate that in the next few months purchases will continue to increase. Apart from completing plans for the upward transfer of grain and transfer to other areas, there will be a shortage of storage capacity for around 2 billion jin, and the problem of the peasants' difficulty in selling grain will continue to exist. This must be seen as an important matter which should be seriously dealt with.

Question: The peasants' difficulty in selling grain is a problem faced by key grain areas throughout the country. How does Hunan plan to solve the problem?

Answer: Because our province was busy fighting natural disasters, we didn't have a sufficient estimate of this problem. After a severe harvest in late rice became a foregone conclusion, the question of difficulty in selling grain became more and more acute. Most recently, the provincial government did some special studies of this problem and firmly decided that the peasants' enthusiasm to sell more grain to the state should be encouraged, and not neglected. We are currently adopting the following measures to actively deal with the problem:

1. We are striving to expand upward transfers and sell to other areas. We have already petitioned the Ministry of Commerce to allow us to transfer upward as much surplus grain as the central authorities need, and to try to transfer even more if possible. We are also actively working to transfer grain to other areas. We currently have signed contracts to transfer about 100 million jin to three brother provinces.

2. We are expanding storage capacity through several channels. Up until now, we have already built grain storage sheds for over 500 million jin in our province. We are also renting public buildings and vacant factory buildings to serve as temporary warehouses for combined product storage, and striving to temporarily obtain storage capacity for several hundred million jin of grain.

3. After late rice goes to market, the provincial government has decided to entrust storage to peasants in 23 centralized grain processing counties, such as Changsha, Ningxiang, and Huarong. Advance purchase contracts have been signed between grain departments and peasants to provide advance payments based on purchase prices for surplus grain. Later, the peasants will be organized to ship out the grain on the basis of monthly plans, according to the national storage capacity situation. It is predicted that 400 or 500 million jin can be stored by the peasant in this manner.

4. We are extending the experiences of Dayang, Ningxiang and other counties throughout the entire province to encourage the peasants to develop animal husbandry and feed-processing industries, thereby increasing the value of grain utilization several times.

If the above measures are fully grasped, it is predicted that the problem of difficulties in selling grain can be basically resolved temporarily.

Question: Apart from the above measures, do you have any other plans for solving the problem of difficulty in selling grain?

Answer: Grain production is a major aspect of our province. From now on, we will continue to implement policies for handling grain production well, and for greatly developing a diversified economy. Due to new changes in circumstances, however, we are currently deliberating on adopting the following measures next year:

first, is to readjust the structure of grain production in a planned way: the systematically developed corn, barley and legume crops to expand production of mixed feeds and promote the development of animal husbandry; second, is to make suitable development in round-grain nonglutinous rice production to adapt to market demand and expand sale to other provinces; third, is to greatly develop the food industry to process grain into various types of nutritious, convenient and sanitary food products to improve the people's standard of living and expand commodity production, and to increase state and peasant income.. We must treat development of the food industry as an important matter, strive to organize scientific and technical strength, and develop traditional Hanan-style convenient foods in order to enter domestic and foreign markets.

1959

From 5/27/59



## TAIHU REGION AGRICULTURAL DEVELOPMENT REVIEWED

Beijing: NONGYE JINGJI WENJI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No. 9, 1983 pp 31-33, 39

[Article by Gu Huanzhang [737/ 3562 334] and Zhang Hingshun [1728 2529 731], Nanjing Agricultural Institute: "Taihu Region Agricultural Development Reviewed"]

[Text] Taihu Region is, economically, one of the most advanced regions in China. With superior natural economic conditions, a long history of development, relatively high agricultural intensiveness level and commodity level, abundant labor force, rich economic potential and close relationship between city and country, Taihu Region is a production base for key commercial grains and other commercial agricultural products, such as cotton, edible oil, tea, silk, bamboo, hog, sheep, and aquatic products, etc. The entire land area of the Taihu Region (covering 33 counties and cities under the jurisdiction of Jiangsu and Zhejiang provinces and Shanghai) occupies only 0.36 percent of the nation's total territory. The cultivated land of the area is about 0.16 percent of the nation's total. But the agricultural growth output value accounts for 5.6 percent of the nation's total and the gross annual value of the industrial and agricultural production account for 15 percent of the nation's total. Consequently, the agricultural development in the Taihu Region is of vital strategic importance in the country's agricultural development. Gross value of the agricultural output of the communes in the Taihu Region accounts only 23.5 percent of the annual growth output value (1981) of the region. The product of 30 million jin (cattl) of commercial grains, 25 million jin of cotton, 135 million jin of cocoons, 30.61 million jin tea, 2.268 million heads of hogs and 132,000 tons of freshwater fish, mussels, etc., provides an important base, supplying goods for residents' consumption and for maintaining the economic prosperity of the region.

Because of the density of the population and the scarcity of the cultivated land in the region, the rapid growth of the county, city, commune and brigade industries, and the rapid rise in agricultural multiple-dropping index, the progress in agricultural technology is not speedy enough, resulting in conflict in agricultural production and agricultural economic development. In order to attain the objective for the future agricultural development of the region, we must first discern the demands on

this region from the national economy. To propose the key strategic goals, basic policy and measures for agricultural development, we start with analyzing the superiority and the existing conflicts concerning agricultural development.

## I. Marked Conflicts Emerged in Current Agricultural Development

Toward the end of the sixties, agricultural development in the Taihu Region reached a new stage. On the one hand, there is a flourishing of commune and brigade industry which leads strong support to the agricultural development. The proportion of double and triple cropped rice has increased, the rapid increase in the multiple-cropping index. On the other hand, there is the unceasing population growth, causing new problems. Some of the major new conflicts are:

### A. Sharp Contradictions Among Population, Land and Grain Output

Being one of the most densely populated regions, the Taihu Region has an average annual increase of 362,500 in population, and an annual average decrease of 110,000 mu in cultivated land area during the past 30 or more years. The 1980 cultivated land area of the southern Jiangsu Taihu Region in Jiangsu Province is 12,454,900 mu which is 118,500 mu less than that in 1970, representing an annual diminishing rate of 1 percent. Total population of the area in 1980 was 10,788,200 which is 836,900 more than the 1970 (an increase of 8.4 percent) figure. Per capita land holding declined from 1.263 mu in 1970 to 1.154 mu in 1980. Between 1956 and 1981 cultivated land decreased at a rate of 1.2 percent in the Suzhou Region. The labor force, on the contrary, increases at an annual rate of 2.7 percent. One notable fact is that since the proportion of youth in the population is relatively high in spite of the intensified family planning campaign, population growth will continue for a rather long period. Based on a recent census conducted in the southern Jiangsu Taihu Region, the average age of the 10,788,000 population is 29.85. In other words, one-half of the population is under 29 and 48 percent is between 20 and 29, which is to say that of the 10 million or more population, 5 million or more will be of childbearing age before the year 2000. The age 0-19 population accounts for 30.78 percent (3,35 million) of the total population of the area and they will enter childbearing age at the end of this century. With one child per couple, there will be a population increase of 1.7 million. Counting in the population mechanical growth figure and some two children per couple increases, the population would be even higher.

The population is growing; industrial, transportation and residential construction projects are developing; cultivated land will continue to decrease. Since little reserve area is available for cultivating, per capita cultivated land will continue to decrease as time goes on. The production technology being as it is, grain output per mu cannot increase by a big margin. Thus, the contradiction between population, cultivated land and foodgrain will become more acute. There will also be a marked situation of surplus labor. After implementing the joint household

contract responsibility system for production, there has been a surplus of 1.2 million in the labor force. The surplus will increase as cultivated land diminishes and population growth continues.

#### B. As Agricultural Production Cost Rises, the Phenomenon of Increased Production Without Increased Profit Becomes More Severe

Between 1970 and 1980 foodgrain per mu yield of the southern Jiangsu Taihu Region increased from 918.9 jin to 1,087.3 jin, an increase of 18.3 percent; agricultural gross income increased from 1.265 billion yuan to 1.598 billion, an increase of 26.3 percent. The agricultural production cost during the same period, however, increased from 574 million yuan to 880 million yuan, an increase of 85.7 percent. The proportion of agricultural production cost versus agricultural gross income jumped from 37.47 percent to 55.07 percent. As a result, agricultural production net income declined from 791 million yuan to 718 million yuan, a severe phenomenon of increased production without increased profit. In 1980, the average per capita agricultural income is 49.21 yuan for the commune's members of the Jiangsu Region. If peasants solely depend on agricultural production income for their livelihood, they could not meet the requirement of subsistence. There are three reasons for the low economic benefit of agricultural production: first, foodgrain production accounts for a large proportion of the agricultural production, and the basic index of procurement is extremely high. The price of foodgrain as compared with the prices of other agricultural products is relatively low. Second, for the past decade, the increase in foodgrain production is a direct result of multiple cropping, increased input in chemical fertilizer, seeds and agricultural chemicals. There have been no significant breakthroughs in farming technology. The investment is seriously subject to the law of diminishing return. Third, diversified undertakings are not well developed, resulting in many problems concerning soil use and preservation. Soil fertility is not raised, resulting in failure to increase peasants' income.

#### C. An Imbalance in Agricultural Ecology and a Daily Worsening of the Agricultural Environment

1. Heavy pollution of water and air are resulting from heavy use of agricultural chemicals and the emission of large amounts of "Three Wastes." The 2,500 industrial enterprises in Suzhou and Wuxi emit a daily amount of 500,000 tons of waste water, of which about 150,000 tons are poisonous and harmful. Various degrees of pollution exist in the large and medium rivers flowing in and out of the 37 communes of Wuxi County, damaging crops and affecting the health of people and animals in the area. According to a Jiangsu Province Environment Protection Bureau study, poisonous chemical residuals are present in the soil, water and air in the entire Taihu area.

2. The overuse of chemical fertilizer, multiple cropping and excessively intensive soil use have caused serious imbalance in the N, P, and K proportion in the soil's physical composition. The southern Jiangsu

winter green fertilizer area has declined to less than 10 percent. During the seventies the per mu chemical fertilizer use (containing 21 percent N) has increased from 45 jin to 378 jin, a 7-fold increase in 10 years. Comparing the chemical fertilizer use in the fifties and the seventies we note a 15.2-fold increase in the Taihu Region. The proportion of organic versus chemical fertilizers dropped from 9:1 to 3:7. According to a study of the Suzhou Agricultural Scientific Research Institute on the nutrient needs for the annual foodgrain cultivation, there is an oversupply of N by 30 percent and a deficiency of P and K by 50 percent in the soil. In addition, the layer of top soil is becoming thinner and the phenomenon of alkalizing is becoming more serious.

## II. Key Strategic Points in Future Agricultural Development

Large, medium and small cities and towns are widespread in the Taihu Region. Because of the concentrated nature of the industry, advanced technology, well-developed economy and rich natural endowment, the direction of future agricultural development should be oriented toward meeting the needs of cities and foreign markets. In addition, we should fully utilize the local technology and economic superiority to accelerate technological innovations in agriculture. In other words, we will strive to achieve a great suburban agriculture, centered around cities. This should be an open agriculture and a highly intensive and modernized agriculture. Based on the strategic requirements and the analysis of the major conflicts in current agricultural development, we recognize three important points in the future agricultural development of the Taihu Region.

1. We must stress the importance of raising the intensive level of agricultural technology by developing scientific agriculture.

The first question one should ask is, "What should our future agricultural development in the Taihu Region rely on?" The measure of multiple cropping and high input adopted during the past 10 years did achieve an output increase. The rate of return is diminishing quite severely nevertheless. In Wuxi County the breakeven point between the input increase in grain production and the increase in output is 70 or more yuan per mu. However, without counting in labor cost, the cost per mu has reached 109 yuan--a fact of capital-loss farming. Consequently, we can no longer rely on increased capital input for future agricultural development. Rather, we must rely on raising the technological level and innovations and breakthroughs in science and technology [S & T].

Second, we have seen the rapid growth of the specialized households and the key households in farming, animal husbandry and fishery in the Taihu Region. They are the important providers of commercial agricultural products. Their scales of operation are relatively large and the requirements in technology, quality, quantity and information are high. Economic risks are big. The key to their success or failure lies in knowledge and information. The decisive factor for their victory is the level of quality, quantity and technology. Production and research and development are now closely knit, transforming production-type agriculture to a scientific research-type agriculture.

Third, an agriculture serving cities and export needs must be competitive—better quality, lower price, continuing innovations in the style and variety of products which, in turn, depend on knowledge and technology. High technology leads to advanced products. Continuous advancement in technology leads to new product development.

To raise the intensiveness level of agricultural technology, a decisive factor is the cultivation of talent and the popularization of scientific knowledge. To transform a production-type agriculture to a scientific research-type agriculture, the producers must raise their S & T level. Technology improvement is indispensable for transforming low production levels to high production levels. To achieve even higher production on the already high production basis of the Taihu Region agriculture, we can rely on nothing but continuous new breakthroughs in technology. In the fifties, a remarkable increase in rice production was achieved by propagating the species developed by Chen Yongkang. In the sixties, the extension of the "Nongken 58" superior variety of shortstalked rice and a series of new measures in cultivating technology brought about grain production increase by a big margin. In the seventies, the large-scale popularization of double-triple cropped rice has raised the foodgrain per mu yield to a new level. Now we must ponder the questions: "Where can new breakthroughs originate? What must we rely on for agricultural development in the eighties?" The questions should be asked not only in farming enterprises but in forestry, animal husbandry, fishery, sideline occupations and agricultural product processing industries as well. An experiment conducted in Kunshan County Foodgrain Bureau demonstrated that by substituting mixture feed for single feed in raising hogs, a hog farmer can increase daily weight gain by 17 percent yet have an 18 percent reduction in feed grain consumption. If there is an all-out popularization of the new technology measure, some 2 million more head of hogs can be raised using the same amount of feed, a 100-million-jin increase in meat production. For another example, if the silk production rate of the Suzhou Region cocoons can increase from the current 11 percent to the 16 percent standard level of the more advanced countries, it is equivalent to an increase in mulberry farms by 100,000 mu. Thus, technology leads to production and efficiency. Knowledge is power and knowledge is wealth. The simple truth is still not fully recognized. In fact, many of the "double high" (high output production, high income) specialization households and key households are mostly topnotch technologists and talented craftsmen. They command technical expertise and rich management knowledge.

We should see by now that new breakthroughs in technology lend themselves to resolving the conflicts between foodgrains and diversified undertakings. Probable change can also result in the phenomena of diminishing returns and increased output without increased income. There could be relaxation and improvement in the degree of tension among foodgrain, energy resources, and land utilization. We must put the emphasis of the agricultural development in the Taihu Region on intelligence development and on the popularization of S & T.

2. Under the precondition of stabilizing cultivated land area for food grains we must develop diversified undertakings. In the Taihu Region, strict population control and cultivated land protection policy should be adopted. Acres allocated for foodgrain production should be stabilized on the current bases without either reducing the size excessively or expanding it willfully. Since 1965, the sown area for foodgrains in the Taihu Region occupied 80 percent of the total sown area. However, since the multiple cropping index jumped from 192 in 1965 to 222 in 1980, the sown area for foodgrains increased from 18,027,000 mu in 1965 to 20,302,000 mu in 1980--an increase of 2,275,000 mu. With the excessive increase in sown area, green fertilizer and other cash crop are being crowded out. Hence, an important precondition for diversified undertakings development is the stabilization of foodgrain acres and sown acres on an appropriate base.

Taihu has a fine tradition for developing diversified undertakings. It has many varieties of undertakings, a high production level and a foundation for specialization. The combination of farming, animal husbandry and fishery exert an important effect on the agricultural ecology of the region. To find an outlet for surplus labor, to better serve the city and export needs, to increase farmer income, we must expand diversified undertakings. According to a 1980 southern Jiangsu region statistic, net income from sideline occupations accounts for 65.2 percent of the gross income from the sideline occupations. The profit is way above that from farming and commune industrial enterprises. The income from diversified undertakings is relatively stable; the raw materials are drawn from local resources. It is thus convenient to combine agricultural and sideline occupations. The combination is also beneficial to the ecology of the agricultural environment and can promote agricultural output and income. The experience of the Taoyuan Commune of Wujian County tells an enlightening story. The commune persisted in combining foodgrain farming, pig and sheep farming, sericulture, vegetable cropping and fishery. The products from different sectors help one another. Labor force is also fully utilized. Rational production structure combined with benign ecological cycles has made the soil more fertile with use. There is annual increase in every sector, pushing the income up year after year. The 1981 per capita distributed income is 202.6 yuan which more than doubles the 1971 figure.

Currently, the diversified undertakings in the Taihu Region are still a weak link. Among the three kinds of enterprises of farming, sideline occupations and industry, sideline occupations is the least significant sector. In 1981, sideline occupations account for only 7.4 percent of the total output value of the Suzhou Region. The potential for developing diversified undertakings is great.

### 3. Stressing Sideline Agricultural Product Processing Industry as Key Points for Development to Raise Agricultural Production

It is true that we can raise the agricultural production level of the Taihu Region. But it is difficult to simultaneously raise the economic results given the present technological condition (Editor's note: we need



to a more rational allocation of capital goods. The potential for increasing profit and decreasing cost is still greater. On the other hand, we can raise the value and use of the product by a large margin by careful utilization of the agricultural and sideline occupation products to better serve consumer needs in the city and rural areas and export markets to improve the economic benefit for the peasants. Experience has shown that by raising the degree of precision quality and quantity of the agricultural product processing industry we can increase the value of the product several times. There has been a rich tradition of skilled craftsmen in the Taihu Region, particularly in the large cities. The strong industrial foundation and the superior technology provide a suitable environment for developing high degrees of product processing industry. Since agricultural and sideline product processing enterprises generally are labor intensive, they can absorb more surplus labor, thus keeping the labor force in the local area to facilitate local development. With the development of diversified undertakings, raw material supplies will become richer and more varied. There is tremendous potential for future development and the prospect is as broad as the broad sky. The key to Taihu Region's agricultural development into a true suburban, scientific research type and high economic agriculture is in the agricultural and sideline occupation products processing industry. In a sense, the fundamental way out for continued agricultural development for the Taihu Region lies in technological intensiveness, and the promise for economic efficiency lies in an advanced agricultural and sideline occupation product processing industry.

1984

100-100/100

RUFF.

FILE BEIJING/205P (Hangzhou, 17 Nov (XINHUA))--A fish breeding and protection zone, built with aid from the United Nations World Food Program (WFP), has opened at Shuang Lake, in northwestern Hangsu Province. The 6,000-hectare zone is one of the 17 fish protection and breeding projects built on the lake under a China-WFP cooperation program, said a spokesman for the provincial fishery department. Under an agreement signed in Beijing in October 1987, the Chinese government will invest 17.95 million yuan (about 8.98 million U.S. dollars) in the projects. WFP will provide wheat and edible oil worth 6.45 million U.S. dollars for construction workers. The projects, the first of their kind undertaken by the WFP in China, include cultivation of water-weeds, carp breeding, construction of fish ponds, pump stations, aquatic products processing enterprises and on-shore resettlement of fisherfolk. Construction of the projects began earlier this year and will be completed by the end of 1988, the spokesman said. [Excerpt] [06171244 Beijing XINHUA in English] (P) (MT 17 Nov 88)

0-11 200000

## JILIN MEETING ON DEVELOPING DRY FARMLANDS

5K220933 Changchun Jilin Provincial Service in Mandarin 1030 GMT 21 Nov 83

[Text] In order to change the dry and low-yielding features of our province's western areas, the recent dry area agricultural work meeting held by the provincial government in Shuangliao County, clearly defined the guiding ideology and measures for developing agriculture in our province's dry areas. The meeting urged efforts be made to plant grasses and trees, to develop animal husbandry and to enact a series of correct measures for dry agricultural technology.

Attending the meeting were leading comrades in charge of agricultural work from counties of Baicheng Prefecture, Shuangliao County, Lishu County, Huaide County and Nongan County.

Comrade Huo Mingguang delivered a speech at the meeting.

The meeting relayed and implemented the guidelines of the north China dry area agricultural work meeting, and summed up and exchanged the experiences and lessons of our province's dry areas in developing agriculture.

The meeting held: Although our province's western dry areas had made great development in agricultural production in the past few years, they are far behind the pace of the whole province. The main reasons are that they only paid attention to grain production to the neglect of tackling the problems concerning agriculture, forestry and animal husbandry in a comprehensive way; only paid attention to building irrigation works to the neglect of the dry land agricultural measures for regulating rivers and watercourses and preserving soil moisture, and planting drought-enduring crops; and only paid attention to marketing and using mineral fertilizer to the neglect of opening up the way to using organic fertilizer.

The meeting pointed out: In order to speed up the pace of developing agricultural production in our province's western areas, and to change the dry and low-yielding features, we must attend to planting trees and afforestation centering on farmland protection forests and dune-fixing forests, vigorously grow green manure plants and forage grasses, further promote the work measure for regulating rivers and watercourses and preserving soil moisture, attend to organic fertilizer, continue increasing land fertility, accomplish the

subsidiary projects of the existing water conservancy projects, bring into play the function of the irrigation works, and select and plant drought-enduring crops and drought-combating seeds.

The meeting pointed out: Leaders at all levels in dry areas should take the lead in implementing the guiding ideology and measures for developing dry land agriculture, strive to make achievements in it and present typical experiences and propagate the guiding ideology among the masses of peasants to make every household to enthusiastically plant grasses and trees and to develop animal-breeding undertakings.

CSO: 4020/39

## MORE ON LIAONING SPECIALIZED RURAL HOUSEHOLDS

OW160300 Beijing XINHUA in English 0236 GMT 16 Nov 83

["This is the second or the last story of the Liaoning series on rural households undertaking specialized production or services."--XINHUA editor's note]

[Text] Shenyang, 16 Nov (XINHUA)--The Liaoning Provincial Government has planned a series of measures to help rural households expand specialized production and services.

Households devoting all or a large part of their labor force to grain production will be given priority in government supplies of improved seeds, insecticides, chemical fertilizers, farm machines and implements, building materials, technical guidance and funds. A portion of the profits yielded by collective factories may also be used to assist or reward these households, Vice-Governor Sun Qi told XINHUA.

This and other measures were laid out at a provincial conference earlier this year. Some have already been put to trial use although others are still being circulated for opinions, Sun Qi said.

Encouragement will also be given to households specializing in forestry, he said. Households may contract separately or in groups to plant trees on unused land belonging to their collectives, and they will receive most of the income from their enterprise.

Afforestation contracts may last as long as 30 years, Sun Qi said. During this period, the households are allowed to cut trees for sale or for their own use, provided that vegetation on the land is well preserved.

The conference also called for measures to increase animal and poultry feed production, the vice-governor said. Feed factories will pay low taxes and operate for low profits in order to cut the prices of their products and aid specialized and semi-specialized households.

"The government will exercise strict control over prices of animal and poultry feed," he said. "Meanwhile, it will continue to streamline the rural sales and marketing network to facilitate sales of farm and sideline products."

"The policy is one of continuing to give free rein to the rural specialization and rendering more services to specialized households," Sun Qi said.

He added: "By giving 'free rein,' we mean to encourage specialization in all fields of production--farming, animal and poultry raising, processing of farm and sideline produce, construction, animal and poultry feed production, energy production, storage, transportation and commerce."

On transportation and commerce, the vice-governor said peasants may use whatever means of transportation at their disposal to transport farm and sideline produce to cities no matter how far away, for either whole or retail sales.

"The only condition is that they must fulfill government sales and delivery quotas and contribute a certain sum which goes to the public accumulation fund and welfare fund of the collective," he said.

Peasants are forbidden to use motorized boats for offshore fishing in order to protect the province's overexploited marine resources. "Privately-owned motorized boats can only be used for transportation," Sun Qi said.

The conference further called for financial assistance to units--rural households included--which offer technical guidance and other services to peasants.

"In addition to bank loans," Sun Qi said, "tax cuts or exemptions will also be granted to such units."

CSO: 4020/39



## BRIEFS

FERTILIZER REWARD RULES--According to the Shandong People's Government's "Circular to Urge People to Work Hard on State Purchase of Summer Grain Crops," our province must, beginning with this summer, improve our method of reward sales of fertilizers. We must change our present method of using the amount paid for the purchase of grain produced above quota as basis for the reward sales of fertilizers. Instead, we should use the amount paid for the entire state purchase of grain. In other words, it does not make any difference whether the sale is collective or individual. For every grain sale in the amount of 100 yuan (calculated according to the price determined by state monopoly of purchase; excluding the additional amount paid for grains produced above quota), there will be a reward sale of 80 catties of standard fertilizers. Whoever sends in the grains will get the fertilizers. For those who send in on the basis of households, the reward sales of fertilizers will be given to households. At the same time, it is also decided that the county will be used as the unit for calculation in focal point grain production prefectures. Every time a county sends in 0.1 billion catties of grain or when the grain sale reaches the level of 180 catties per person, the county will be given 2,000 tons of fertilizers. These fertilizers will be given according to the principle that they will go to the brigades or households which actually send in the grains for sale. [Text] [Jinan DAZHONG RIBAO 12 Jun 83 p 1] 12397

CSO: 4007/190

END

**END OF**

**FICHE**

**DATE FILMED**

29 Dec 1983